



Electronic Communications Committee (ECC)
within the European Conference of Postal and Telecommunications Administrations (CEPT)

**REVIEW OF THE CURRENT USE OF ELECTRONIC PROCESSES
WITHIN CEPT/ECC FOR LICENSING AND
INFORMATION PURPOSES**

Dublin, September 2004

EXECUTIVE SUMMARY

This report is an update on progress being made by CEPT administrations in the establishment of electronic licensing and other electronically -enabled processes, made possible by the introduction of new e-delivery platforms. The original work item required by the ECC in 2000, to establish information on the preparations and developments leading to the establishment of e-licensing systems has been expanded to capture issues whether administrative, legal or technical facing administrations in the establishment of a wide range of e-based processes. The report comprises of 8 sections.

Section 1: The Introduction provides full details on the task, which commenced with the issue of a questionnaire to administrations, the response to the questionnaire and the further evolution of the work item, following the submission of WGRR's first report to the ERC in 2002.

Section 2: Aim of the report, gives a working definition used in the report of 'e-enablement' and outlines the reasons why the task was expanded to deal with electronic processes being developed by Administrations that fell outside of the narrower definition applying to e-licensing.

Section 3: Background provides some context to the exercise and gives information on developments taking place within EU Member States in their obligations to contribute towards wider Information Society technology strategies and places the exercise in the context of these wider 'political' drivers, that exist alongside the business efficiency drivers apparent in the EU and within the CEPT organization.

Section 4: Identified barriers to uptake of e-licensing lists the formidable 'barriers' facing administrations in their implementation of electronic processes including, electronic payments, the process of customer authentication (or validation), electronic signatures, legal or administrative constraints, the absence of harmonized customer identification procedures and infrastructure that assist international roaming. Section 4 gives some information obtained from Administrations on how they tackled these issues, many of which remain to be resolved by the majority of Administrations.

Section 5: E-Licensing/Electronic Process Developments presented by Administrations, This section contains much of the evidence and facts that administrations have provided in dedicated sessions and work-shops reporting back on progress and issues being faced in the roll-out of e-licensing and e-enabled processes. Full details of presentations given in February 2001 (The Hague), May 2002 (ERO), May 2002 (Kiev) and July 2003 (ERO), by the ERO, Finland, Germany, Ireland, the Netherlands, Romania, Switzerland and the United Kingdom are also available through the e-licensing sub area contained on the ERO website. This section confirms the wide range of electronic services that have been delivered or are being planned by Administrations, in spite of the 'barriers' identified in Section 4

Section 6: Findings from the Workshop presentations, This section concentrates on the findings obtained from the presentations detailed above and also on written reports and updates provided by some other administrations. The findings show that in spite of barriers to take-up of e-processes there is considerable progress in some areas but that the drivers for success vary according to the business needs and priorities of administrations. Furthermore, this section reports on the benefits of e-processes, on areas that require attention and on the identification of critical business processes .

Section 7: Applicability to 'light licensing', In response to a WGRA work item seeking further definition of the term 'light licensing', administrations responded to a survey, the results of which showed a strong correlation between less bureaucracy in licensing processes and the use of e-enabled processes. Details of this are given in this section.

Section 8. Conclusions, reached from the information gathering exercise, are outlined in this section and relate to: Business processes, Customer Confidence, Perceived barriers, a Central Government approach that can assist the development of electronic processes, electronic delivery as an aid to 'light-licensing' and the diverging systems being adopted by administrations. In addition there are still a large number of issues that require attention in varying degree, according to the state of development and individual needs of administrations and their customers. These include: differing states of preparedness across administrations; E-signature, authentication and E-payment; access to information on existing licences; the legal requirement to continue with 'paper licences'; 'international roaming'; data quality; customer acceptance; the applicability of existing legislation; the re-use of information;

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1 INTRODUCTION

The process of gaining information on electronic processes has been a task for RA Working Group Project Team 6 since 2000. In November 2001 the ECC had requested in its first meeting in Antalya, Turkey, that further work should be carried out by the Project Team on this topic. The work was initially scoped as a means of gathering information on developments that were taking place for the establishment of e-licensing processes within some administrations. The gathering and dissemination of information to administrations and follow on progress reports to the ECC has been carried out through a variety of exercises under Project Team RA6. The most important of these information gathering exercises has been:

- The issue of a questionnaire to administrations in December 2000. Conclusions obtained from responses to the Questionnaire were that:
 - Over half (55%) of CEPT administrations had begun, planned or thought they would in the future plan for some form of electronic licensing process.
 - Administrations already offered a wide range of licensing services capable of being delivered electronically e.g. application forms; electronic processing.
 - These were available across a wide range of business sectors but varied between administrations
 - There were a number of reasons that existed to support an e-licensing approach but the most important of these appears to be efficiency gains brought about by the simplification of the licensing process
 - The main inhibitors to an e-licensing approach appeared to be of a legal, regulatory or security nature
 - Some administrations that had not yet planned electronic licensing did however use a range of automatic information delivery mechanisms e.g. internet, e-mail and fax
 - Some administrations who had no immediate plans to implement electronic licensing were aware, however, of a market demand for these services
 - The collection of fees by electronic methods was low across all administrations
 - All administrations that had not yet introduced or planned electronic licensing believed that they would consider it at some stage in the future.
- The presentation and results of the questionnaire were given at WGRR in The Hague in February 2001, with the morning session devoted to presentations and a panel discussion on electronic licensing.
- Following the submission of its first report to the ECC at its meeting in Interlaken in July 2002, the ECC requested that a further report should be submitted highlighting problem areas and possible work items. This was presented to the ECC at its 4th meeting in Luxembourg November 2002, through a *draft report to ERC on the Review of Electronic licensing WGRR (01) 63*. A key conclusion of this report which was accepted by the ECC was that confidence in the electronic process was an essential element for success, in producing e-licensing solutions that administrations were able to take forward and customers were able to use. However, confidence for the customer and licensing administrations was itself dependant upon a number of inter-related issues. Issues identified as requiring further investigation by WGRR were at that time: customer issues; business processes; legal and policy; technical and security.
- The further investigation led to the identification of a number of key issues where further work may assist ECC in their understanding of barriers to the establishment of CEPT harmonised e-processes. These included: electronic-payment; installation of systems able to guarantee the authentication; difficulties presented through the use of electronic signatures where differences in approach to implementation of e-signature could hinder the required mutual recognition within CEPT countries or could impede access for European users to e-services across Europe when they are not resident in the country; the need for administrations to review the applicability of existing legislation to new processes, involving complex issues such as customer confidentiality, customer security and the status of documentation.

2 AIM OF THIS REPORT

This ECC report is a review of the current state of 'e-enablement' within CEPT/ECC administrations of licensing and related business processes that are being introduced. Its aim is to give an up to date position on progress being made for the 'e-enablement' of licensing and other processes. 'E-enablement' is defined for the purposes of this report as the use of electronic processes by administrations (from the simple use of e-mail through to more complex web-based applications) to produce more cost effective and efficient processes, ultimately for customer benefit. Although earlier reports provided through WGRR have concentrated on the use of electronic processes in a licensing environment, i.e. e-licensing, it is

recognised that e-processes can assist a wide range of activities - such as quicker authorisations of spectrum, quicker turn-round of licence processing, automatic update of technical or administrative data and also simple access to the existence of a range of information that can benefit public and industry alike. Also, although the studies commenced with WGRA/RA6 have concentrated on the gathering and transfer of information for electronic-licensing, there has been a clear recognition by administrations that this focus may well be too narrow and that other developments that allow the use of electronic processes require a review in order to obtain a balanced view of the impact of new IT processes, that assist the authorisation of electromagnetic spectrum in new and innovative ways.

3 BACKGROUND

3.1 'e-enablement' in a European context

3.1.1 *The EU information Society:*

The EU Information Society Directorate-General stimulates research into Information Society technologies which can be integrated into the citizen's everyday environment, business and administration. It has established and is maintaining a framework of regulation designed to generate competition and stimulate the development of applications and supports initiatives that encourage and enable all European citizens to benefit from, and participate in, the Information Society. It plays a key role in implementing the "vision" set by Europe's heads of state in Lisbon, 2000: to make Europe the most competitive and dynamic knowledge-based economy in the world, characterised by sustainable growth, more and better jobs and greater social cohesion, by 2010.

Key priority areas identified in the successive eEurope Action Plans managed by DG Information society include "Government on-line and electronic access to public services" which should benefit from action at European level for the provision of faster, more responsive services with increased efficiency and transparency, lower costs and faster standard administrative processes for citizens and business. The EU acknowledged that the challenge for administrations is to adapt quickly to the new methods of working and enable new innovative ways of working, and that the changeover to electronic interaction involves major changes to the internal workings of administrations which can be complex to manage. In addition, different rules on access across the Union restrict the development of pan-European services. The exchange of good practices, the development of secure and seamless access to e-government services, the effective use of electronic authentication and development of e.g. smart cards or other devices to support e-signature, require continued efforts on the part of EU Member States.

The EU has set the objective that by end 2004, basic public services should be interactive, where relevant, accessible for all, and exploit both the potential of broadband networks and of multi-platform access. Further, by 2005, Europe should have modern on-line public services, with broadband connection for all public administrations, interoperability to support the delivery of pan-European e-government services to citizens and enterprises and interactive public services.

National initiatives regarding e-government are complemented by actions carried out at European level such as through the IDA programme which supports interoperability of back office processes, standardisation and the provision of pan-European services. In addition, the Commission is working on creating a EU framework for the exploitation of public sector information.

3.1.2 *CEPT*

As for the EU, there is evidence to show that within CEPT Administrations there is continuing pressure for the public sector to become more efficient in the coming years and to supply more services for the same resources. This requirement is often driven at central Governmental level to examine how tasks can be performed better and at a lower cost. It has been recognised that more value for money can be achieved by utilising IT as a means of creating efficiency; performing state tasks better and more cheaply. Securing modern management practices and creating efficiency through modern IT and a IT knowledge-based society, will it is believed, utilise new technology to alter the way that work is performed in the public sector. The aim is to provide citizens and businesses with better service, and to release public employees for tasks that contribute directly to the welfare of citizens. Greater efficiency and less bureaucracy will be created by rethinking the entire process of task performance. Increasingly government initiatives promoting e-technology will take new paths and will challenge customary working procedures and paper-based routines in every area.

In the coming years, investments made in e-government can eliminate manual, routine case processing and reduce administration times. The goal is the establishment of more efficient public working practices, as well as faster and more correct case administration, for the benefit of citizens and businesses. It is also recognised that new technology should contribute to the creation of increased collaboration across the boundaries of the public sector. With regard to the legal

rights of citizens, it must be ensured that the exchange of information is possible between state IT systems, so that people come to experience the public sector as a well-functioning whole. This will help eliminate duplication of work, and will prevent people having to provide the same information several times. The use of IT will almost certainly contribute towards a development in which citizens and businesses will be using IT in many different contexts.

4 IDENTIFIED BARRIERS TO UPTAKE OF E-LICENSING:

4.1 Electronic payment

Although e-payment was initially perceived as a barrier to the take-up of e-licensing, in practice many administrations have been able to introduce e-services that require a fee payment, without finding it necessary to introduce a full on-line electronic payment transaction.

4.2 Authentication

Described in simple terms, authentication is the process customers are required to go through in order to identify themselves every time they wish to use electronic services. Authentication of customers to enable the delivery of electronic services has proved to be a formidable barrier for administrations to overcome in furthering the delivery of electronic processes. In its presentation to the e-licensing workshop in the Copenhagen workshop held in May 2002, the UK suggested a step-wise approach that would permit the delivery of some processes, whilst some of the more complicated security issues remain to be resolved. Differing levels of authorization (secure identification), it was suggested, could apply according to the levels of risk associated with the types of transactions being performed. The higher the level, the more important it is that the customer is, in fact, who they claim to be. These were described in the following hierarchy:

- Level 0 – “No confidence”. This level of security can apply for the transaction of information services or on-line subscription where no details of the enquirer are necessarily required, other than possibly a name and address. Examples given were the ‘Sitefinder’ service provided by the UK where the public could find information relating to the sites where Cellular Base Stations are located together with details of the power levels being operated.
- Level 1 – “Balance of probabilities”. This Level of authentication or security applies when the judgement is that the administration believes that the ‘*balance of probability*’ is that the customer using on-line services is probably who they state they are. Such assurance would probably be required for the use of on-line transactions where there is no requirement to access or change customer records and no requirement for access to technical data. Such a level of authentication should require the on-line applicant to produce two or more known facts of the customer’s identity. Examples could include general enquiries and licence renewals.
- Level 2 - “Substantial assurance” Level 2 assurance is required when there is a substantial requirement to ensure that the accuracy or integrity of customer records is not compromised. Examples include the access of customer records for technical information or the cancellation of existing licences or frequency assignments. Level 2 assurance can be obtained through the use of added technology including the use of digital certificates – an ‘electronic passport’ used to verify that the on-line customer is only that customer who should have access to the data. Examples would include the need for secure or sensitive enquiries; the access or amendment of technical or financial details; cancellations; take-over of licences or self-assignments. However, such a level of security indicates that there are issues that are required to be resolved including: the issue of certificates by certifying authorities; these include the need for customer investment in technology required to provide the necessary level 2 assurance. Also there exists a mobility constraint imposed by the verifying technology where customers may want to operate from more than one location using more than more than one PC.
- Level 3 - “Beyond reasonable doubt”. This highest level of authentication currently considered necessary and is required when transactions take place in a highly secure environment. In the UK may be performed through the ‘Government Gateway’ a single authentication service which enables citizens/ businesses to communicate securely with different Government departments and ensuring that the most accurate and up to date information is shared between those departments. This does however require multiple Government legacy systems to inter-operate within a highly secure environment and brings issues of separate inter-departmental initiatives requiring co-ordination of focus and funding.

4.3 Electronic signatures

Electronic signatures represent a solution to *Authorisation level 2 – “substantial assurance”* (described above) required to verify that the on-line customer is in fact the customer. In the electronic licensing workshop held at Copenhagen in May 2002, the German administration demonstrated a high level of progress in moving towards a regime employing the use of

accredited service providers; verification of providers' specialised knowledge and reliability and a review of certified security concepts. Tasks also undertaken by Reg TP¹ included publication, as required, of suitable algorithms (BSI); certified technical components. This had been achieved under the guidance and direction of Reg TP's who ensured that technical operation of the national root certification authority;- the issue of certificates for accredited certification service providers; directory service with certificates available for retrieval and verification 24 hours a day, 7 days a week.

Reg TP provided the necessary supervisory authority through regular checks on accredited certification service providers and the monitoring compliance with the Signatures Act and Ordinance. Reg TP's Powers of intervention included prohibition of the use of unsuitable components; withdrawal of certification for technical components and qualified electronic signature products; revocation of certificates; prohibition of operation by certification service providers; activities in connection with the cessation of operation by certification service providers. Additional tasks included recognition of certification bodies for security concepts and technical components (Accredited Certification Bodies' Working Group – AGAB); supervisory body for "notified" certification service providers (within the context of qualified certificates) and the publication of "notified" certification service providers.

4.4 Legal or Administrative constraints

Thirteen of the 24 Administrations that responded to the questionnaire/survey issued in December 2000 replied that regulatory or legal constraints presented a barrier to the introduction of e-licensing. This was further referenced in the WGRR 2002 report where it was cited as necessary for Administrations to overcome complex issues such as customer confidentiality, customer security and the status of existing printed documentation. Further examples have been provided through the Regulations for Telecommunications and Post of Germany who in their presentation of legal requirements for electronic signatures showed a time horizon of some 5 years between the development stage (Act and Ordinance) in 1996 and its final implementation in 2001. Such time delays are not uncommon and further evidence was given by the ERO who referred to the need to address legal issues in arriving at electronic solutions.

4.5 National authorization/identity

Although it is not strictly an obstacle to the establishment of e-processes by administrations, an issue that has arisen concerns the future status and infrastructure necessary to establish some form of national authorisation or enablement (e.g. for 'roaming' users). It is likely that in the future, with separate developments by administrations in the uptake of e-processes, that such users will be required to establish different electronic identities in each country. This problem may be compounded by the introduction of different application procedures or software used from country to country.

5 E-LICENSING/ELECTRONIC PROCESS DEVELOPMENTS PRESENTED BY ADMINISTRATIONS

Presentations on progress that administrations are making towards the establishment of electronic processes have been the subject of presentations at WGRR in The Hague in February 2001 and Kiev in May 2002. In addition, dedicated workshops, aimed at assisting the transfer of information and best business practices have been given at the European Radiocommunications Office (ERO) in Copenhagen in April 2002 and July 2003. The following is a summary of the progress being made and presented at these venues:

5.1 Finland

Finland had introduced a computerized licensing system in 1979. For several years now Finland has accepted licence applications, modifications or cancellations of existing licences by e-mail. Although the use of emails is associated with risks, few problems had been reported, with a number of e-mail applications a day are received by the Administration. When an e-mail application is received, the system automatically responds with an acknowledgement message.

A new information system is under development to enable the handling of all radio functions of the Agency. A review of all daily functions and the automation of all routines had been undertaken to simplify licence processes, reduce time to issue licences, improve customer service and reduce the costs per licence. The system would facilitate the maintenance of all customer information that would be digitised, the handling of correspondence would also be automated. Billing would continue via invoices unless clients agree to direct billing via a bank. The issuing of a licence will be in the form of a paper document. The new system will enable the implementation of comprehensive spectrum fees (today most licensees pay a licence fee instead of a spectrum fee) and payment for spectrum use rather than per transmitter. The new system is planned for launch in 2005 with parallel use of the current system for half a year until full implementation is achieved in 2006.

¹ Regulierungsbehörde für Telekommunikation und Post

5.2 Germany

A Presentation given by the Regulation Division of Germany's Telecommunication and Post, concentrated on the legal changes necessary in the German Administration before it was possible to move towards the security necessary to achieve full electronic processes. This required the application of a tested e-signature regime (see 4.3 above). The business and legal processes necessary had been established following the application of a sophisticated and comprehensive risk assessment and validation model.

5.3 Greece

Greece is examining the resolution of issues related to security; the standardisation of processes and availability of resources for help desk and maintenance. There is currently not a great deal of demand for electronic processes from users in Greece, with relatively low internet penetration of around 10%.

5.4 Ireland

Ireland's Commission for Communications Regulation (ComReg) presented on the approach being adopted in their preparations for 'e-enabled' processes. As with other Administrations it had been necessary to achieve legislative changes through the Electronic Commerce Act to enable a framework towards e-processing to be started. The Ireland Administration had undertaken a survey of business benefits that could be obtained through automated processes and had taken as its starting point – "*the facility to allow licensees to carry out some or all of the stages of the licensing process by electronic means*". The first phase of the project has met its short term objectives of:

- Availability of all electronic application forms on the Website;
- Facilities for direct debit and credit card payments;
- Adaptation of internal application processing procedures to prepare for full electronic licensing.

April 2004 saw the launch of an enhanced service to existing customers including:

- A dedicated website for customers to log on for renewals;
- Encouraging and accommodating Renewals-on-line (specifically, payments);
- Allow visibility of account details.

In order to minimize business risk, the pilot adopted by the Ireland Administration focused on an electronic renewal process where the lessons learned through the e-processing of a part of the licensing process could be evaluated and applied to good effect elsewhere in the business at a later stage.

5.5 Norway

Norway provides all application forms online as PDF or Word documents and the provision of applications by e-mail is accepted. A project is being set up on e-licensing but Norway reported that it was difficult to start the process and allocate resources.

5.6 Romania

The Romanian Administration reported on their e-licensing project aimed at increasing efficiency and transparency and thus improving the quality of service provided to customers. As part of the e-licensing project extensive regulatory information will be provided on the website together with access to on-line application forms. Users that register online will receive an automatic certificate with a unique ID and an access code for identification by the system. Application forms can then be filled in on-line, with on-line tracking facilities to check the progress of the applications. Licences will be granted either electronically or on paper. Fee payment will also be possible electronically.

5.7 Switzerland

Switzerland has introduced E-OFCOM as an "electronic counter" to improve productivity (for mass products), minimise costs (for office and customer), accomplish automation of repetitive tasks, minimise errors (quality of service) and promote the information society. The first application developed was a numbers assignment tool. More than 95% of all assigned numbers are VAS numbers. The system also enables the assignment of number blocks, short numbers and access codes for telephony networks as well as a number of communications parameters. Most successful services are PRS numbers (game, chats, adult services).

Access may be 'read only' or personal access. Registration data needs to be sent to the Administration to obtain a user ID and number with which the user can then set his or her own ID and password. The user can track the procedure and monitor their number resources and also cancel assignments on-line. 'Back office' tasks include the manual checking of address. When a number is assigned a paper copy is printed out and mailed to customer and invoiced. Transfer of numbers to other

customer is possible. An electronic archive is available where the user can search for allocated and available numbers. 8'000 customers have used the system for 85 000 numbers assigned. There are 100 transactions per day (assignment or cancellation). More than 60% of assignments are carried out via internet.

The system enables faster processing, automation of repetitive tasks, better quality of service and reduced costs, improving the image of the Administration. Some of the disadvantages are difficulties with the validation of users, changes of addresses, users reluctance to file complex application via internet and fake registrations. Fees for numbers exist, a one-off fee and a low annual fee.

5.8 The European Radiocommunications Office

The electronic availability and submission of application forms through the ERO Satellite On stop Shop, incorporate the use of IT processes to deliver satellite application forms in English or National versions. Features include the ability for customer printing, on-line navigation; the incorporation of dynamic changes and assistance through help text. No electronic signature feature is provided because of the complexity and potential costs of implementing a single solution across a number of CEPT countries. Throughout the information gathering process the ERO has been pro-active in describing the need for well defined, tested and publicised business practices; also according to their experience highlighting the problems and benefits brought through the adoption of e-processes. These are described more fully in 6 below.

5.9 The Netherlands

The Netherlands presented an update on electronic improvements to its licensing processes through on-line applications and requests, including on-line withdrawal of licenses for radio amateur, pleasure craft and single point - single point fixed link sectors. The on-line services had been extended to 56,000 of a total base of 92,000 customers. The licensing services were supplemented by a wide range of electronically delivered information including regulations and restrictions for licensing and examinations; Newsletters and Frequently Asked Questions; Information for National Frequency Plan and National Frequency Register; National Antenna Bureau and technical aspects relating to Telecommunications regulations. The Netherlands had based its electronic service strategy on tackling the relatively simple forms of licenses where there were high volume gains to be obtained. It had ensured that a major review of its business processes accompanied the moves towards the delivery of electronic services and had made substantial progress towards well defined centres of assistance provided through designated call centres. On-line access is enabled via a relation number combined with an electronic key which are delivered by the Administration at the first contact with the applicant. For new applications only a signature needs to be sent in writing to the Agency which is not required for extension of existing licences.

There are further plans to establish Electronic Data Management, to enable automatic transmission, insight into own licences via EDM, the use of E-signature, electronic payments and the delivery of licence conditions via the internet. Some thought has been given to the possible introduction of reduced fees for on-line applications but this seems difficult to implement. A call centre consisting of five people which is open five days a week provides general as well as specific licensing information. Most queries relate to help with passwords, how to fill in forms, general and fee information, and time frame for receiving a licence. More complex licensing procedures (Land Mobile, aeronautical, taxi, fire brigade) are also being considered for e-licensing. In addition an aim of electronic document management is to trim targets for licence processing and to enable the transfer of the workload to the starting point of the application.

In the Netherlands the target for licence delivery is 100% of licences delivered within 10 working days for radio amateurs. Currently 10,000 electronic applications for amateurs are filed per year, one third via the Internet; the running time for licensing process has reduced from 4-6 weeks to 10 working days.

5.10 The United Kingdom

The United Kingdom started the first trials roll-out of electronically delivered licences with its Private Business Radio Paging licences, for 13,000 customers, requiring the electronic capture of fees electronic down -loading and submission of application form direct into the work flow system. Progress has been made towards the resolution of authorisation issues described in 4.2 above. The on-line licensing process had been accompanied by the other on-line services including the 'Site finder' Mobile Phone Base Station Database providing a national database of base stations and their emissions; the R& TTE Notification of radio equipment where use is not harmonized throughout the European Community and the on-line clearance of Transportable Earth Stations, that had replaced a manual fax system of document interchange, the new system had experienced a 95% take-up. The new UK Communications regulator Ofcom provides a number of on-line solutions including Site Finder (location of base stations), Sat Clear (management of network licence), Flatco and Electronic applications for specific products.

New Processes have more recently been established through the MASTS (Mobile Assignment Technical System) project - an automated frequency assignment tool for PMR, CBS and coastal maritime products enabling on-line assignment within

minutes. MASTS provides scientific assignment methods based on terrain data, ITU propagation models and monitoring data. A user group of internal users carrying out assignments plus industry users was set up to define requirements. The project started in September 2000 and the aim is to 'go live' for customers in the beginning of 2005.

Within the UK current assignments are based on local terrain knowledge where ITU propagation models are not necessarily being used. Assignments may take up to two weeks to process and there may be inconsistencies. MASTS should improve the assignment process, customer service (i.e. assignment within minutes) as well as creating a platform for future phases of spectrum pricing/trading strategy. It is also a tool for band harmonisation. MASTS should be easy to use, informative, consistent and transparent, based on use of efficient methods, and should enable planning of new technologies. It should include coordination checks and make equitable assignments based on quality of service calculation.

The MASTS assignment process consists of three stages whereby the user first enters his contact details, then technical information (including defining required requested service area) before the system performs calculations. The system makes an estimate of suitable transmit power and then a prediction of the coverage area, providing channels suitable for the application. The assignment is then confirmed by the applicant.

Key characteristics of this new project were that MASTS enables some of the assignment work to be performed by the applicant who defines the requested service area. MASTS will be connected to the monitoring system; Grade of service will be defined for customers and will be incorporated as part of the calculation (algorithm). It is intended in the future that the payment of fee will depend on the quality of service and users will then have the choice of lower or higher quality of service. This will be key parameter and will be based on the number of mobile systems (and their traffic activity) in a particular coverage area. A spectrum trading project is underway to find out how to integrate the IT tools, and include legal and enforcement aspects in the calculation of the algorithm.

A further new development is the recent launch of the authorisation and e-registration for 5.8 GHz Band C Fixed Wireless Access Terminals. Bands A and B are licence exempt while Band C is not currently regarded as licence exempt in the UK as it is currently used by military radars, road telematics, as well as satellite and broadcasting. Parameters for use in the C Band include the deployment of Dynamic Frequency Selection (DFS) and Transmit Power Control (TPC). A licensing database enables licensees to see the location of all licensed terminals. The opening of Band C has incorporated a simple e-licensing interface at low cost and no interference for established users will be caused. The authorisation process should take minutes, the system should immediately say whether or not use is permitted at a given location. If the registration is successful then the user should be given a reference number that allows immediate installation and use. Registrations can only be made by Band C authorised users.

6 FINDINGS FROM WORKSHOP PRESENTATIONS

- i. ***The workshop approach*** adopted by WGRA and WGRR had been extremely useful and had proved helpful in structuring findings and looking at future steps. It had enabled a combined approach to investigate what may cause problems, what has been done nationally and had enabled the removal of a great deal of uncertainties and "fears" about e-licensing. Within CEPT national scenarios vary greatly and are constantly evolving. Experience made in some administrations had provided useful insight into a wide range of issues and should help facilitate the path towards e-licensing/e-enablement. There had been good progress even if a number of issues needed to be explored further. In particular it had been possible to provide information and advice on a wide range of issues, including :
- ii. ***The drivers*** for e-licensing varied according to the business needs of Administrations and often according to central governmental priorities. E-government initiatives were evident in (the UK and Ireland)– technology and legal issues had provided a focus in (Germany). Business goals also provide a prime focus need for automation/streamlining which in turn improves speed, efficiency and the licensing process as a whole (e.g. Netherlands/Ireland).
- iii. ***The approaches adopted*** have varied according to business need and have incorporated a "total flow" approach with the : complete electronic process for all licences; "vertical" vs "horizontal approach": most of licensing process electronic for a sample group; step-by-step approach: starting from the easiest to more complex types of licence (e.g. amateur/LM/GSM).
- iv. ***Key aspects of e-licensing.*** As identified in the first report to ERC and endorsed by the ECC for further examination, key aspects of – Authentication / E-signature – Electronic payment – Help line – Business/Application processes have been the focus of attention.

- v. **The importance of the business processes for the take up of e-licensing.** The business process has been clearly identified as a key factor in assisting the success of the delivery of electronic processes. Failure to move in line and in time with changes in the business processes will, in all probability, mean that the main goals and efficiencies to be obtained from the adoption of electronic processes are unlikely to be obtained in full. Consequently the business or application process needs to be analysed carefully. E-licensing/e-enablement cannot be achieved simply through the resolution of legal and technical issues, the outcome of which would mean that value-added improvements to both the administration and the customer would be missed. Similarly, the provision of on-line services should not be viewed as simply providing existing services through an on-line platform. In moving towards the establishment of e-processes, e-licensing goals concentrate on efficient business processes which require a thorough review of the existing procedures to ensure that the ultimate goals for both users and administrations are being achieved. On-line availability increases the exposure of services through greater transparency, consequently poorly applied e-processes provide no more benefit than if they were not applied at all. The legacy of existing application procedures can also prove a burden to the process of establishing e-processes, where the questions being asked often cannot be explained through current requirements or are not absolutely critical to the licensing process.
- vi. **e-enablement opens up a wealth of opportunities** for administrations and customers alike, it is a unique opportunity for administrations to promote new solutions with real benefits to both users and themselves.
- vii. **Benefits of e-processes.** Include faster procedures from real-time submission to real-time reply; better tracking and auditing; users can follow up status of application on-line; electronic payment can lead to speedier payment procedures especially for licensees based abroad. Electronic processes can provide a basis for more transparent and harmonised licensing procedures at a national level. Incrementally e-processes will mean less burdens for administrations as the process and further maintenance of administrative and technical details shifts towards customers.
- viii. **The problems.** Electronic solutions do not or cannot solve all the complexities of licensing regimes, and often the electronic solution will need to address a number of issues (technical/legal/practical). Users' expectations from electronic licensing are often high and progress may not be a speed that satisfies all customers. Despite these potential complexities and high customer expectations, it is important to win customer's confidence with successful and swiftly delivered electronic solutions as a disappointed user may be a result in a "lost" user. Electronic licensing has to put the user in a "win" situation through evident resource savings and simpler more transparent processes.
- ix. **Issue requiring attention.** Complexity of new processes: – It is of paramount importance to streamline the licensing process on paper before starting to develop an electronic licensing solution – To do that, a careful analysis of needs has to be carried out based on close co-operation between licensors and users. The electronic licensing process should be kept as short and transparent as possible. With high user expectations where benefits need to be clearly demonstrated it should take less time to fill in a form on line, with a added value provided in the form of 'friendly' and clearly set out information and advice. Wherever possible the process should lead directly to a licence being granted (as long as all requirements can be fulfilled).
- x. **What steps should be taken** -to fulfil customer expectations and optimise the licensing process a successfully established authentication regime helps build up trust on the part of the user in the process being carried out. The user is sure that the information and data being provided is accurate and current, this should lead to a successful outcome at the end of the session. This ensures that from an administration's point of view that the information being in-putted is correct, thus optimising licensing procedure and adding value to the paper process. In addition it is important to ensure differentiation of approach between first-time applications/renewals/ modifications. Analysis of steps required for different types of applications within a licence category should help tailor the solution to specific needs – e.g. data saved for a first-time application need to be kept for later use as this is a clear time-saving factor. Finally it is important to make full use of electronic benefits that are available with an emphasis on resolving electronic signature/authentication so as to avoid additional burdens for users (e.g. sending faxed copy of signature, applying for password in writing).
- xi. **Key elements for success include:** a successful and quality driven electronic solution. Electronic licensing and processes by their nature means some loss of personal contact with licensors which makes it even more crucial to build trust. Users who do not find what they want will not trust the system and will prefer to file applications the traditional way. "Dual" solution/full solution remains an issue for many administrations but it may always be necessary to provide users paper applications. However, administrations need to provide "full service" in order to

meet expectations (i.e. from applying on line to receiving authorisations per email and perhaps paying on line). User-friendliness is a critical issue, with a comprehensive help system to support the user. Processes should be uncomplicated and crystal clear to aid understanding and confidence. Communication with customers should take place before, during and after the development of an electronic licensing. Experience has shown that the full involvement with customers in scoping and testing electronic solutions before delivery can bring added value and benefit to the final solution. This enables the best definition of user needs and expectations to be available during the project and allows modification or corrective actions to take place prior to delivery. Marketing actions should also be undertaken to make sure that a maximum number of potential users are aware of the availability of such system. This could include demonstrations at clients' site, mailing action, organisation of events. It is important to refer systematically to the electronic solution and to outline the benefits (e.g. speed of granting authorisation).

7 APPLICABILITY TO 'LIGHT LICENSING'

WGRR was tasked to provide further information on the development of ideas for lighter licensing regimes in Europe. The work is being taken forward through Project Team RA6. In order to gain some further information on what Administrations regarded as being relevant to the pursuit of 'lighter regulatory regimes', Administrations were invited by the end of March last year to provide information to a questionnaire developed in WGRR. In response to the questionnaire, electronic processes were considered to be an important component of 'light regulatory' regimes.

The findings of that survey showed in particular that:

- *'Administrations believed that lighter regimes could be best achieved through: changes in legislation and simplified documentation/conformance procedures; the limitation of conditions to only those necessary to avoid harmful interference and to safeguard the efficient use of spectrum; **administrative processes that allow the quick take-up of technology; electronic delivery** and the minimisation of unnecessary regulatory barriers'*
- *'Administrations believed that the most important characteristics from a customer's point of view to be: simplified licensing applications and administration procedures; increased licence exemptions; fewer restrictions; **electronic licensing**; harmonised frequencies; harmonised procedures simple fee structures and open standards'*
- *'Benefits in order of those most frequently mentioned included: reduced costs; improved reputations for Administrations; **simplified licensing processes**; better focus for resources; reduced burdens for staff and customers; **faster and more efficient application processes**; reduced workloads; increased productivity; reduction in customer complaints; increased competition; efficient allocation of resources and finally reduced interference complaints.'*

8 CONCLUSIONS

Business processes

The move towards the delivery of electronic processes is assisted by well defined business needs. This has been clearly identified as a key factor in assisting the successful delivery of transparent electronic processes. A successful business process can be established by paying attention to an analysis of the business processes; requirements definition; streamlining of forms, validation and a transparent and accessible 'help' regime. The business process and marketing are key to the take up of e-licensing. In addition as a way of making early progress towards electronic delivery some administrations have made progress by tackling the relatively simple forms of licenses early where there were high volume gains can be obtained.

Customer Confidence

It is important to win the confidence of customers with successful and swiftly delivered electronic solutions. Customer expectations can be high and a disappointed user may result in a lack of trust for follow-on transactions, with customers reverting to making applications through more traditional means. Electronic licensing and processes by their nature means some loss of personal contact with licensors which makes it even more crucial to build trust. A successfully established authentication regime can assist in the establishment of trust between Administrations and users.

Perceived barriers

Administrations may perceive the existence of barriers or constraints as a deterrent to the early introduction of electronic processes that may on closer examination not provide a great deal of difficulty. Examples of this are provided through the electronic signatures and authentication, where it has been shown by some administrations that services can be

electronically delivered, following a risk assessment process to determine the exact risk involved to both customer and administration.

In addition electronic payment was initially perceived as a barrier to the take-up of e-licensing but in practice administrations have been able to introduce e-services that require a fee payment, without finding it necessary to introduce a full on-line electronic payment transaction.

Central Government approach can assist the development of electronic processes

Incentives to introduce electronic processes vary according to central governmental priorities as well as the business needs of Administrations. E-government initiatives were evident in a number of administrations and where they exist they can provide a focus to the resolution of legal and administrative issues. Where such initiatives are not centralised then it can lead to disparate control and development of alternative or duplicate policies and systems.

Complementary to 'light-licensing'

There is clear evidence that as administrations move towards 'light licensing' regimes, that the delivery of well designed electronic processes will play an increasingly important part in reducing burdens on the customer and enabling the use of more innovative authorisation solutions.

Diverging systems

There is clear evidence that within CEPT, national preparations towards e-processes are governed by differing government initiatives, legal environments and business needs. Consequently the opportunities to standardise practices and procedures are few as scenarios can vary significantly and are constantly evolving. Further, because government initiatives do not normally only address e-enablement for electronic communications processes but aim at providing public e-services for a whole range of activities (e.g. tax returns, local registers etc.) it seems rather difficult to reconcile such global national approaches with the need for a common European approach in the electronic communications sector.

Issues that remain

There are still a large number of issues that require attention in varying degree, according to the state of development and individual needs of administrations and their customers. These include:

- Existing state of preparedness. Administrations already offer a wide range of licensing services capable of being delivered electronically. These exist across a wide range of business sectors but vary between administrations, administrations are planning to deliver a range of services across a diverse range of business services:
 - E-signature, authentication and E-payment remain wide-reaching issues for some administrations with a reluctance to move too early towards solutions, as these issues impact upon other business areas. E-payment has not been enabled for the great majority of administrations.
 - Access to information on existing licences has not been resolved for all administrations (e.g. legal, confidentiality and data protection issues).
 - The granting of all licences electronically poses a problem, with administrations recognising the need to retain hard copies, when requested by customers.
 - The common citizen approach of a single point of entry for e-services has not been realised anywhere in Europe, with implications for 'roaming users' who may in the future have to establish different electronic identities in each country and possibly need to comply with different application and IT requirements.
 - Data quality: The maintenance of data quality can be difficult, particularly when information in licence conditions change, requiring application forms update. In the move towards e-processing data needs to be aligned and checked.
 - Customer acceptance remains an important issue. Customer take-up is more evident for licence products where there are significant volumes, as such products lend themselves better to e-processes.
 - The applicability of existing legislation; the need for administrations to review to new processes, involving complex issues such as customer confidentiality, customer security and the status of documentation.

The re-use of information: Spectrum management departments have increasing IT tools which when combined can make up packages. The re-use of knowledge can play an important role and the development of a registration system for one type of licence can help developing registration for other types of licences.