



Commission for
Communications Regulation

Response to Consultation

Opportunities for Trialling Wireless Services and Technologies in Ireland

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An Coimisiún um Rialáil Cumarsáide

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Foreword

This document is ComReg's response to the consultation document 04/85, "Opportunities for Trialling Wireless Technologies in Ireland", published on 11th August 2004. In the consultation, we put forward a series of proposals to build upon Ireland's existing advantages as a wireless test and development location, by introducing a new, more flexible licensing regime. A total of sixteen responses were received, all of which were broadly supportive of our proposals, and put forward a number of other helpful suggestions on how we might further enhance the licensing regime to meet industry's needs.

ComReg now intends to proceed swiftly with the introduction, early in 2005, of a new licensing regime for radio service and technology trials which will bring Ireland to the forefront as an ideal location for research and development. In addition to relaxing some of the constraints on the existing test licence regime, a new licensing scheme will be introduced which for the first time will allow innovative new wireless services that do not fit within existing licence categories to be offered to the public on a trial basis. This will allow new service concepts to be tested in a realistic environment at an early stage of development, ensuring that subsequent commercial offerings are properly tailored to meet the needs of users. Safeguards will be built in to the new scheme to ensure that this does not disadvantage existing licensed services.

I believe these new initiatives will be a major boost to wireless research and development in Ireland and ComReg will be working closely with industry, professional engineering institutions and public agencies such as IDA Ireland to maximise industry awareness of the new scheme over the coming months. In the meantime I would like to express my gratitude to all those who responded to the consultation.

John Doherty

Chairperson

Commission for Communications Regulation

1 Introduction

This document is ComReg's response to the consultation on "Opportunities for Trialling Wireless Services and Technologies in Ireland", which was issued in August. A number of enhancements to the current licensing regime were proposed in the consultation document. These were viewed favourably by most respondents and a number of further suggestions were made which ComReg has taken into account in developing the new regime.

Ireland has unique advantages in terms of its geographic location and relative lack of spectrum congestion which make it an ideal location for wireless test and development. ComReg is keen to encourage developers by providing a flexible and responsive licensing regime. The current licensing regime has enabled a wide range of radio tests to be carried out in Ireland, involving both the commercial and academic sectors, but many consider that the scheme could be more flexible by, for example, accommodating licences of longer duration and enabling the participation of the public or other third parties in service trials.

ComReg therefore intends to proceed with a number of initiatives to enhance the existing test licence regime to meet the needs of the wireless communications sector in Ireland. There will also be a new category of licence that would cater for third party participation in service trials.

The structure of this response document is as follows:

Chapter 2 describes the initiatives which ComReg will be introducing in the light of the consultation, to promote radio technology and service trials in Ireland.

Chapter 3 provides a list of the respondents to the consultation.

Chapter 4 provides a summary of the comments received in response to the consultation.

The full texts of the non confidential submissions in respect of consultation 04/85 are contained in Documents 04/115s and 04/115s1.

This document is without prejudice to the legal position or the rights and duties of ComReg to regulate the market generally. Any views expressed are not binding and are without prejudice to the final form and content of any decisions that ComReg may make.

2 New Initiatives to promote radio technology and service trials in Ireland

2.1 Introduction

Following consultation with interested parties, ComReg has decided to proceed with a number of enhancements to the current radio test licensing regime and to introduce a new licensing scheme for service trials involving third parties, including members of the public. The following sections outline these proposals and should be read in conjunction with the details of both schemes as presented in Annex A.

Two licence types will be available, one covering technology tests and the other covering service trials involving third parties or the public. These are referred to elsewhere in this document as “test licences” and “trial licences”, respectively. Both licences are intended to support genuinely novel research and development activities and are not intended for the commercial delivery of electronic communication services. A number of restrictions apply to the test and trial licences to differentiate them from other types of licence, in particular limits apply to the duration and, in the case of trial licences, the number of third party participants and the charges that can be levied on participants. Test licences will not permit the involvement of members of the public in the tests.

The main body of national legislation governing test and trial licences is the Wireless Telegraphy Act, 1926, as amended. In addition EU measures, as transposed into Irish law, may affect the policy and regulation of amongst other things the granting of spectrum rights of use, innovation and licensing. In particular, readers should be aware of the Framework Regulations (S.I. 307 of 2003) and the Authorisation Regulations (S.I. 306 of 2003), both of which can be downloaded from the ComReg web site (www.comreg.ie).

2.2 Enhancements to the existing Test Licensing Scheme

The existing test licensing scheme will be made more flexible by removing or relaxing a number of restrictions that currently apply. Specifically, ComReg intends to:

- Replace the current six month test licence duration with a test licence of up to 12 months duration. In addition, the duration of the test may be extended beyond this period, by application for a new licence, where justifiable and where good spectrum management considerations permit.

- Adopt a standard fee of €200 per annum, scaled pro-rata for licences of less than one year but subject to a minimum fee of €100.
- Encourage test and development activities in **all** available frequency bands, whilst highlighting from time to time specific opportunities such as those arising in internationally harmonised bands or from international standards initiatives.
- Investigate the possibility of exempting from licensing, tests involving very low emissions where the risk of interference is negligible.
- Permit testing of Ultra Wideband (UWB) technologies at appropriate locations, on a strict non-interference basis, pending a European agreement on regulatory limits for UWB emissions.

2.3 Introduction of Radio Service Trial Licence

ComReg will be launching a new licence category to permit the trialling of radio services involving third party participants, on a non-commercial basis. The new licence will include the following provisions:

- Trial licences will be available for any new service that does not fit within existing licence categories.
- A standard licence fee of €500 per annum, scaled pro-rata for licences of less than one year but subject to a minimum fee of €100.
- Licences will be up to twelve months duration with the possibility of further licences beyond this period subject to spectrum management considerations and adequate justification, where the service under trial does not replicate any existing licensed wireless service in Ireland and where there is no operational licensing scheme in place for the service being trialled at the time of the extension.
- The number of third party participants will be limited, at the discretion of ComReg. As a general rule no more than 100 participants will be allowed where trials relate to specific user groups (e.g. business users) and no more than 1000 will be allowed for consumer trials. However, additional participants may be considered where these can be justified.
- Holders of trial licences will be permitted to recover their costs from participants, but must not apply any charges beyond cost recovery. Details of any charges to be levied on participants and the basis of their calculation must be provided with the licence application.
- Spectrum under these licences will be limited to the minimum required for the trial.

- Licensees must ensure that trial participants are aware that they are participating in a trial and of the conditions and limitations relating to the trial. In this regard, a proposed waiver document is presented in Annex B of this document.
- Trial licences may also be subject to the conditions of the General Authorisation for the provision of electronic communications and services, which are specified in ComReg document 03/81.

2.4 Timescale for introducing the new test and trial licensing schemes

ComReg will begin preparing the necessary regulations to implement the new trial licensing scheme and the changes to the test licence regime, with a view to launching both schemes early in 2005. At that time the revised guidance notes and application form will be made available on the ComReg website.

2.5 Promoting Opportunities for Radio Tests and Trials in Ireland

The new licensing initiatives described above provide a timely opportunity to promote the advantages of Ireland as a location for technology development and service trials to the wider industry community. ComReg will therefore be highlighting these new initiatives to industry and professional engineering institutions, through our own direct contacts with industry and through public bodies such as IDA Ireland. ComReg will provide information for the research and development community, including guidance on the licensing regime and, in the future, an on-line licence application facility.

The establishment of wireless “development parks” in areas where existing use of radio spectrum is limited could allow intensive testing and trialling of wireless technologies in an environment that would minimise the risk of interference to other services. ComReg was encouraged by the support for such initiatives from some of the consultation respondents and would be pleased to offer its support to those seeking to develop dedicated wireless research facilities at suitable locations.

3 List of Respondents to the Consultation

Sixteen responses were received in total, comprising six from the telecommunications industry, four from academic institutions, three from the

broadcast sector and three from public sector bodies responsible for national or regional development. The full list of respondents is as follows:

- Border Midlands and West Regional Assembly
- Chorus
- Digital Hub
- eircom
- ESAT BT
- Forfás
- Institute of Technology, Tralee
- Irish Broadband
- L.M. Ericsson Ltd.
- NTL
- National University of Ireland, Maynooth
- O2
- Queens University, Belfast
- RTÉ
- University of Limerick
- Vodafone

4 Summary of Responses to the Consultation

4.1 Introduction

The consultation paper addressed the level of awareness of and satisfaction with the existing ComReg test licensing regime and proposed various enhancements to make the scheme more attractive to the research and development community. The main topics of the consultation are covered in the following sections, which include an overview of the topic, a summary of the responses received and a statement of ComReg's position in the light of the responses.

4.2 Awareness of the current ComReg test licensing regime (Questions 1 – 4)

4.2.1 *Summary of Consultation Topic*

Respondents were asked to indicate whether they were aware of the current licensing regime and whether they felt it met the needs of industry and users for product and service development. Views were also invited on how the regime compared with similar regimes in other countries that respondents were familiar with.

4.2.2 *Summary of Responses*

All of the respondents were aware of the current ComReg test licence regime, although one respondent noted that this was only by way of specialist knowledge and that wider advertising of the scheme would help. Another respondent felt that ComReg spectrum initiatives should be promoted more widely to improve awareness.

All of the thirteen respondents who commented felt that the current licensing regime could be more flexible. In particular, it was considered that a licensing scheme which catered for market trials and which accommodated tests/trials of longer than six months would enhance the attractiveness of the licensing scheme. In addition, one respondent considered that the current test licensing scheme did not cater sufficiently for the development of new technologies such as UWB and Wi-Max whilst another respondent highlighted the importance of ensuring that the scheme catered for the needs of smaller indigenous start-up companies looking at research and development in the wireless sector as well as service providers in the telecommunications industry. One respondent highlighted the importance of ensuring that licences were processed quickly.

Eight respondents were aware of similar test licensing schemes elsewhere. Countries mentioned were Australia, China, Germany, India, Malaysia, Thailand, the UK, USA and Vietnam. One respondent felt that the UK scheme had advantages relative to the Irish scheme, notably a longer duration and lower cost. Another cited a number of benefits of the US scheme, namely on-line applications, greater flexibility on licence duration (2 – 5 years) and the possibility of a special temporary authorisation that can be obtained at short notice with up to six months duration.

4.2.3 ComReg Position

ComReg is encouraged by the widespread awareness of the current test licence regime, but acknowledges that more could be done to promote the scheme. ComReg will seek opportunities to publicise the scheme nationally and internationally through trade and professional engineering institutions, by direct contact with industry and through industrial development bodies such as IDA Ireland. ComReg intends to proceed with enhancements to the scheme, which are addressed elsewhere in this document, and will seek to publicise these changes widely in the Irish and international media.

4.3 Identification of specific frequencies or technologies for test purposes (Questions 5 - 8)

4.3.1 Summary of Consultation Topic

Views were sought on whether it might be appropriate to identify specific frequency bands to support development of emerging global standards such as WiMax or existing harmonised frequency bands such as GSM or UMTS. Another emerging technology, Ultra Wideband (UWB), raises particular issues in terms of co-existence with other radio technologies and the consultation invited suggestions on what restrictions may be required when conducting UWB tests to avoid potential interference. Finally, the consultation asked which other wireless technologies might be supported by the test licensing regime.

4.3.2 Summary of Responses

A range of views were expressed on this topic. Six respondents were in favour of promoting specific bands from time to time. Most respondents who expressed a view (six out of eight) were in favour of harmonised bands such as GSM and UMTS being used for testing. Four respondents felt that testing should not be limited to specific bands, although two of these were happy for specific bands to be promoted by ComReg so long as others were not excluded.

One respondent felt there was no need for specific frequency bands to be identified for testing, while another felt that tests within the GSM or UMTS spectrum should be restricted to those holding rights of use for that spectrum. A third respondent felt that trials in the GSM or UMTS bands should be consistent with the corresponding technical standards and a fourth thought that the use of these bands might be counter-productive as they would not be available in the longer term. One of the respondents felt that testing should focus on bands where the possibility of alternative use exists, including harmonised spectrum where it was unclear whether global standards would actually be deployed. Another felt that tests in broadcast bands should be limited to broadcast technologies.

Frequencies that were identified as suitable to support testing of emerging standards included:

- 470 – 806 MHz (two respondents)
- 2.3 – 2.5 GHz (two respondents)
- 2.5 – 2.7 GHz (five respondents)
- 2.7 – 2.9 GHz (one respondent)
- 3.4 – 3.8 GHz (two respondents)
- 5.25 – 5.875 GHz (two respondents)
- 3.4 – 4.99 GHz (one respondent)
- 3.8 – 4.2 GHz (one respondent)
- 26 and 28 GHz (one respondent)

Respondents also expressed a range of views on UWB and how this should be covered by the test regime. Most who expressed a view (six out of seven) were concerned about potential interference and thought that restrictions on UWB tests should therefore apply. Three respondents thought that UWB should be restricted to indoor operation and three others thought that geographical restrictions should apply. One respondent felt there was a case for designating specific geographic areas where higher powers than allowed for by the spectrum mask could be operated, providing some differentiation between Ireland and other locations.

A number of specific technologies that might be suitable for the test licence regime were mentioned by respondents and are listed below. Five respondents

commented that the regime should be flexible enough to support any new technology.

- IEEE 802.15 (Wireless Personal Area Networks)
- IEEE 802.16 (Broadband Wireless Access, including WiMax)
- IEEE 802.11 (Wireless Local Area Networks) including enhancements such as Wireless Access in a Vehicular Environment (WAVE),
- Digital radio relay technologies
- Technologies using spread spectrum and OFDM modulation techniques
- HSDPA

4.3.3 ComReg Position

ComReg notes the wide range of frequencies and technologies identified by respondents as candidates for trials under the test licensing regime and the preference expressed by many respondents for the regime to include harmonised bands such as GSM. ComReg will endeavour to accommodate radio tests in any frequency band where spectrum is available, subject to adherence to good frequency management practices, compliance with any international regulatory requirements¹ and where the risk of harmful interference is negligible. As with the current licensing regime, all test licences will continue to operate on a strict non-interference basis.

With regard to UWB technology, ComReg acknowledges the concerns about potential interference and proposes to accommodate tests of this technology where the risk of interference is minimal, e.g. in specific geographic areas or indoor locations that provide appropriate electromagnetic shielding from potential interference victims. In addition, ComReg will consider highlighting specific frequency bands or technologies such as WiMax as part of its wider remit to promote the test licensing scheme, in consultation with spectrum users.

4.4 Licence Duration and Fees (Questions 9-10)

4.4.1 Summary of Consultation Topic

Views were sought on ComReg's proposal to extend the duration of radio test licences to twelve months with the possibility of one or more extensions, and on

¹ The use of certain frequencies may be constrained, for example by the ITU Radio Regulations or EU Directives

what level of fee would be appropriate for test licences. A fee of €500 was proposed.

4.4.2 Summary of Responses

Ten of the fifteen respondents who commented were unequivocally supportive of ComReg's proposal to extend the duration of test licences. One respondent questioned the need for a 12-month limit, arguing that 18-24 months would be more consistent with product development cycles. Another felt that some differentiation regarding the type of test would be required – twelve months would be fine for an existing standard but longer may be required for new standards like UWB. Two respondents thought the duration should reflect that in the US, i.e. two to five years. Only one respondent favoured licence duration of less than 12 months, arguing that a term of 12 months may lead to inappropriate use of test licences.

Of the fourteen respondents who expressed a view on fees, 6 were in favour of the €500 proposal. Five respondents thought a low fee should be applied, one respondent considered that fees for trial licences should be higher than those for test licences, one respondent favoured the current charging policy and one considered the proposed fee to be very low.

4.4.3 ComReg Position

ComReg is keen to ensure that the test licence regime provides as much flexibility as possible and recognises that in some cases this may justify additional licences being granted beyond the initially licensed period to extend the test period. However, ComReg also recognises that there are genuine concerns from licensed operators arising from the potential to misuse these licences. ComReg is minded to proceed on the basis of permitting test licences of up to 12 months duration with the possibility of applying for additional licences to continue the test after this period, subject to a clear technical justification for continuation of the test.

In relation to fees, ComReg notes the responses to the proposed €500 annual fee and, in consideration of these, intends to apply a fee of €200 for test licences and €500 for trial licences. In order to further encourage as wide a range of applicants as possible, the fees will be applied on a pro-rata basis for test/trial licences of less than one year duration, subject to a minimum of €100.

4.5 Tests involving suppressed emissions (Questions 11-12)

4.5.1 Summary of Consultation Topic

Comments were invited on a proposal to exempt from licensing, radio tests where the level of emissions is limited to a level that causes negligible risk of harmful interference, and on the emission limits that might be appropriate for such tests.

4.5.2 Summary of Responses

The majority of respondents (eight out of twelve) supported this proposal, although four of these expressed concern about how such a scheme would be enforced. Two respondents thought that a registration or notification scheme would be appropriate and two thought that all tests should be subject to licensing. A number of suggestions were made regarding possible limits for such tests, including:

- Existing standards for exposure to RF radiation
- Field strength limit based on typical performance of commercial anechoic chambers
- Based on best practice from other countries.

4.5.3 ComReg Position

ComReg considers that it may be appropriate to exempt from licensing, radio tests where the emissions are below the level where harmful interference is likely to arise. ComReg will therefore study this issue with a view to exempting from licensing systems with emission limits that are sufficiently low to present a negligible risk of interference to licensed systems.

4.6 Provision for Service Trials (Questions 13-18)

4.6.1 Summary of Consultation Topic

The consultation raised a number of issues related to the involvement of third parties in trials of electronic communication services under a proposed new trial licence regime. Views were sought on whether holders of trial licences should be able to recover costs from third party participants, what limits should apply to the duration and number of third party participants permitted under a trial licence, and whether any other restrictions should apply to these licences. Finally, comments were invited on a proposed “waiver” document that would be signed by all participants in a service trial under the proposed licensing scheme, and on draft guidelines describing the proposed conditions for the new scheme.

4.6.2 *Summary of Responses*

The majority of respondents supported the proposal to permit recovery of costs by trial licence holders. Of the thirteen who expressed a view, eight were explicitly in agreement with the proposal and one was in favour providing sufficient safeguards are included to prevent trial licences being used as a backdoor means of market entry. Three respondents felt that the proposal should go further and allow normal commercial charges to be applied to trial participants, in order that user reaction to tariffs could be evaluated as part of the trial. Only one respondent was against the proposal, arguing that it may encourage some trial licensees to launch commercial services.

Opinions were divided on the duration of trial licences. Of the ten respondents who expressed a view, five agreed with the proposed twelve month limit and four were in favour of extensions beyond this limit being permitted. Only one respondent thought those twelve months was too long, suggesting that three months should be sufficient. One respondent who supported the 12 month limit suggested that the duration should run from the commencement of radio transmissions as preliminary preparations such as site development may entail delays beyond the licensee's control. Of those who favoured extensions, one suggested up to two six-month extensions should be permitted, another suggested up to two twelve-month extensions, one suggested a flexible period up to 2 – 5 years and the fourth suggested the same rule should apply as for test licences.

There was a range of views on the number of third parties that should be allowed to participate in trials. Of the ten respondents who expressed a view, six considered that the number of participants should be limited, although views on the number varied considerably. One thought that 100 was an appropriate limit, one suggested 250 and another suggested a limit of 20 per geographic location. One respondent felt that separate limits should apply depending on whether the trial involved consumers or business users, suggesting limits of 1000 and 50 respectively, whilst another suggested that licensees should specify the number of participants in the application and ComReg could then decide if this was an appropriate limit or amend accordingly. Four respondents did not feel a limit was necessary, preferring the number of participants to be left to the licensee's discretion.

Some additional trial licence conditions suggested by respondents included requirements not to cause harmful interference to licensed operators, details of the geographic extent of trials and prevention of commercial exploitation by third parties. One respondent suggested that trial licences should operate under the general principle that no actions are taken by the licensee that rely on the service continuing beyond the trial period.

Seven out of nine respondents who expressed a view were in favour of the proposed waiver document for trial participants. Three of these suggested additions to the waiver:

- Make clear that any subsequent commercial service would not necessarily be on the same terms and conditions or at the same price as the trial;
- Details of any cost recovery arrangements, the duration of the trial and any restrictions placed on the third party should be included;
- The third party should explicitly agree to be bound by the licence conditions;
- The waiver should include a full description of the trial service, environmental and safety impact analysis and potential end-user benefits.

One respondent considered that a waiver could be onerous if a large number of participants were involved and suggested it would be sufficient to provide ComReg with a list of customers and addresses and to bring the guidelines to the participants' attention.

A number of specific comments were received on the draft guidelines for the trial licence regime; these are summarised below:

- One respondent considered that it was not necessary under the EU Framework for ComReg to approve each trial participant, instead it should be sufficient for licensees to keep relevant data for possible audit by ComReg;
- Another respondent commented that it may not always be possible to conduct a service trial in spectrum that would subsequently be available for commercial service due to equipment not being available in the band

concerned, and this could be a constraint for promoting Ireland as a test-bed for new technologies.

- A third respondent suggested that the requirement for ComReg to give prior authorisation for PSTN connection could be removed, or alternatively that ComReg should indicate that such authorisation would not be withheld unless it was considered that the connection of the trial equipment might impair the operation of the PSTN.
- A fourth respondent felt that a condition should be included that entitles the licensee to confidentiality regarding any test result data supplied to ComReg.
- A fifth respondent thought that it should be a condition that any costs involved in investigating interference in relation to the trial should be borne by the licensee.

4.6.3 ComReg Position

ComReg welcomes the broadly favourable response to its proposal to allow trials involving third parties and to permit for the possibility of the recovery of costs from trial participants. This provision will be included within the new trial licence regime².

In relation to the duration of trial licences, extended service trials involving third parties could have an adverse impact on licensed operations where similar services are being provided, but may be appropriate in other circumstances, for example where there are delays in introducing a fully operational licensing scheme or where the services offered do not replicate any existing licensed services. ComReg therefore intends to limit the duration of trial licences to 12 months but to allow extensions in exceptional circumstances, subject to adequate justification by the licensee and it being clear that the service under trial does not replicate any existing service and cannot be licensed under any other existing licence scheme.

ComReg notes the range of views submitted on the appropriate number of participants in service trials and the suggestion that any limitation should reflect the nature of the trial. Having considered the responses, ComReg believes there is a case for a flexible approach to this issue, under which the permitted number of participants reflects the eventual potential market for the service under trial.

Thus ComReg would anticipate that a trial involving a consumer oriented service may involve a greater number of participants than a trial of a specialised service aimed at a particular user group. On the basis of the comments received, ComReg believes that limits of 1,000 for consumer oriented trials and 100 for other types of trial are appropriate as a general rule, but will be prepared to consider other options where this can be justified by the applicant.

ComReg is in agreement with the suggested conditions that should apply to trial licences and believes these should also apply to test licences that do not involve third parties. ComReg is also grateful for the suggestions received regarding the proposed waiver document for trial participants and a number of these are reflected in the revised waiver document presented in Annex B. In view of the decision to permit 1,000 participants in consumer oriented trials, ComReg does not consider it appropriate for copies of individual waiver documents to be submitted to ComReg, but will instead require a declaration from the licence holder which clarifies that participants have been informed of the trial nature of the service. ComReg will also reserve the right, at its discretion, to verify this by direct contact with trial participants and will expect the conditions referred to in the waiver document to be incorporated into any contract that exists between the licensee and trial participants.

ComReg agrees with most of the comments on the draft guidelines and has taken these into account in preparing the “Details of the new radio test licensing scheme and service trial licensing scheme”, presented in Annex A. ComReg is concerned that undertaking trials in frequency bands that would not subsequently be available for operational licences could lead to false expectations on the part of consumers involved in the trial and therefore proposes to retain this restriction. Rights to access or interconnection to the public telecommunications networks is governed by the Access Regulations (S.I. 305 of 2003).

² ComReg will not be liable in the event that the licensee fails to recover its costs, for whatever reason.

4.7 Opportunities to promote technology development and testing in Ireland (Questions 19-21)

4.7.1 Summary of Consultation Topic

The consultation invited suggestions on how ComReg or other parties could best promote opportunities for radio system testing and trialling in Ireland, whether an on-line application procedure would support this objective and whether the relatively sparse demand for radio spectrum in parts of Ireland was a significant factor in making such areas attractive for wireless development.

4.7.2 Summary of Responses

The following suggestions were made by respondents:

- Details of any available radio spectrum and associated test licence conditions could be made available on a website along with any tax incentives or grants that might be available for such tests or trials.
- Working alongside professional bodies such as the IEI (Institution of Engineers of Ireland) or IEEE (Institute of Electrical and Electronic Engineers), locally based multinational companies or academic bodies with international links could be beneficial.
- ComReg should actively promote its services to industry and academia using tools such as in-house seminars.
- Approval of joint test and trial licences for vendor and academic research partnerships.
- Attendance by ComReg at major wireless industry trade fairs or other industry fora and direct contact with candidate firms and organisations.
- Ireland's attractiveness as a preferred location for Research and Development requires the engagement of all key actors, including the County Enterprise Boards, Enterprise Ireland and IDA Ireland, at a local and national level.

There was broad support for an on-line application facility, although the impact of this on take-up of test and trial licences was generally expected to be marginal. Respondents were divided on the potential benefits of promoting wireless tests or trials in areas where demand for spectrum is currently low. Five respondents commented that trial licensees are likely to prefer areas where there is a sizeable population as this is most likely to reflect the eventual target market. Two other respondents noted potential benefits in terms of rural broadband

coverage and two were particularly supportive of the concept of creating a dedicated “wireless development park” in Ireland. One respondent commented that the most important factor in the development of innovative wireless services in Ireland was the lack of congestion in most frequency bands and widespread availability of spectrum for testing new products and services, but suggested this advantage could be compromised by the lack of a firm timetable for migration to digital television.

4.7.3 ComReg Position

ComReg is grateful for the constructive suggestions received and will work with other relevant bodies such as trade and professional institutions and IDA Ireland to ensure that greater visibility is achieved under the new licensing regime. ComReg welcomes the interest shown in the establishment of dedicated wireless development parks in Ireland and would be pleased to offer its support to such initiatives. In general, ComReg will seek to accommodate wireless tests or trials at any suitable location, but there may be instances where certain frequency bands are not available at particular locations due to high local demand or the potential impact on other spectrum users.

Annex A: Details of the new Radio Test licensing scheme and Service Trial Licensing Scheme

1 Introduction

1. The Commission for Communications Regulation ('ComReg') intends to operate a special licensing regime to encourage innovation and development involving new radio technologies or services. Two licence types will be available, one covering technology tests and the other covering service trials involving third parties or the public. These are referred to elsewhere in this document as "test licences" and "trial licences", respectively. Both licences are intended to support genuinely novel research and development activities and are not intended for the commercial delivery of electronic communication services. A number of restrictions apply to the test and trial licences to differentiate them from other types of licence, in particular limits apply to the duration and, in the case of trial licences, the number of third party participants and the charges that can be levied on participants.

2. This note provides information on the test and trial licensing schemes, details the conditions attached to test licences and service trial licences and the circumstances in which these licences will be issued.

3. The main body of national legislation governing test and trial licences is the Wireless Telegraphy Act, 1926, as amended. In addition EU measures, as transposed into Irish law, may affect the policy and regulation of amongst other things the granting of spectrum rights of use, innovation and licensing. In particular, readers should be aware of the Framework Regulations (S.I. 307 Of 2003) and the Authorisation Regulations (S.I. 306 of 2003), both of which can be downloaded from the ComReg web site (www.comreg.ie).

4. Test licences will not permit the involvement of members of the public in the tests. Trial licences will permit limited participation by third party members of the public. Trial licences may also be subject to the conditions of the General Authorisation for the provision of electronic communications and services, which are specified in ComReg document 03/81. Any specific queries relating to licensing or general authorisation requirements should be referred to ComReg.

2 Scope of Test and Trial Licences

1. **Test licences** relate solely to the carrying out of tests of novel or innovative radio equipment, spectrum or technology and may not be appropriate where the applicant is seeking in the longer term to acquire a full operational licence for the service under test;
2. **Trial licences** relate to the carrying out of trials of novel or innovative radio services involving members of the public or other third parties. Trial licences will be available for any new service that does not fit within existing licence categories.

3 Conditions Attached to Test Licences

Involvement of Third Parties

1. Test licences do not permit the involvement of the public or the provision of services to third parties and are intended for in-house testing only. Joint ventures or collaborative research, may be permitted subject to prior notification to ComReg of the name, address and nature of participation of each such party, and the issue by ComReg of prior specific sanction for their involvement.

Licence Duration

2. A test licence is valid for a specified duration, limited to a maximum period of twelve months from the date of issue. Where the nature of the test requires a longer duration and the radio spectrum that is licensed is not required for other purposes, ComReg may consider extending the duration of the test for a further period (maximum 12 months), subject to a formal application from the holder of the test licence not less than one month before its expiry. The application for the new licence must include reasons to justify the extension of the test. Further extensions will be considered on a similar basis.

Licence Revocation

3. A test licence may be revoked by ComReg should the licensee cease to meet the provisions or any of the terms or conditions attached to the test licence, or ceases to use the licensed equipment and/or spectrum for the purposes set out in the test licence. ComReg also reserves the right to amend, suspend or withdraw a test licence.

Frequencies for test licences

4. The radio spectrum extends from very low frequencies (below 9 kHz) to frequencies up to 3000 GHz³. Different parts of the spectrum are allocated to different services, such as fixed, mobile, broadcasting or satellite. In principle, test licences will be considered for any part of the radio spectrum where spectrum is available.

Licence Fee

5. The fee for a test licence will be €200 for 12 months. This fee will be reduced pro rata for shorter durations down to a minimum of €100.

4 Conditions Attached to Trial Licences

Non-commercial nature of trials

1. Trial licences are issued on the understanding that the trial is carried out on a non-commercial basis and, in particular, that any payment or like consideration by a third party to the licensee in connection with the use of radio equipment, spectrum or services under the licence is limited to recovery of costs arising from the trial. Details of any charges to be levied on participants and the basis of their calculation must be provided with the licence application. For the avoidance of doubt, ComReg will not be liable for any costs incurred by the licensee in operating the trial.
2. The trial licensee must retain for inspection by ComReg, the name, address and nature of participation of each third party involved in the trial. The trial licensee must ensure that each participant is informed of the nature of the trial (i.e. temporary, for trial purposes only, non-commercial, cost (if any applies)) and that there is no obligation to subscribe to any commercial service that might subsequently be launched by the licensee following completion of the trial. ComReg will expect, at minimum, the conditions referred to in the waiver document (Annex B) to be incorporated into any contract that exists between the licensee and trial participants.

³ For a full description of available radio spectrum allocations in Ireland please refer to the national frequency allocation table (ComReg document 04/77)

3. The number of third parties that the applicant wishes to participate in the trial must be stated in the application. As a general rule, the number of applicants will be limited to 100 for trials involving specific user groups (e.g. business users) and limited to 1,000 for trial services aimed at the consumer market. In exceptional cases ComReg may consider higher numbers but these must be justified objectively by the applicant. The number of third party participants permitted, once agreed by ComReg, will be specified in the licence schedule and must not be exceeded at any time during the trial.
4. Each licensee must submit a declaration to ComReg declaring that all participants have been informed of the nature of the trial, prior to commencement of the trial.

Connection to Public Telephone Networks

5. Rights to access or interconnection to the public telecommunications networks is governed by the Access Regulations (S.I. 305 of 2003).

Licence Duration

6. A trial licence is valid for a specified duration, limited to a maximum period of twelve months from the date of issue. Where the nature of the trial requires a longer duration and the radio spectrum that is licensed is not required for other purposes, ComReg may consider extending the duration of the trial for a further period (maximum 12 months), subject to a formal application from the holder of the test licence not less than two months before its expiry. The application for the new licence must include reasons to justify the extension of the test and must meet all of the conditions detailed below. Further extensions will be considered on a similar basis.
 - a. Where the requirement for extension can be justified objectively by the licensee.
 - b. Where the development of an appropriate licensing scheme to provide for full service licences is being pursued.
 - c. Where the service under trial does not replicate any existing service available in Ireland.
 - d. Where no alternative licensing scheme exists for the service concerned.

Licence Revocation

7. A trial licence may be revoked or suspended by ComReg in accordance with the provisions of the Authorisation Regulations (S.I. 306 of 2003).
8. Without prejudice to paragraph (1), where the Third Party Trial does not constitute an electronic communications network or an electronic communications service as defined in the Framework Regulations, the Commission may, where there is serious or repeated non-compliance by the licensee with the conditions attached to the licence and having considered any representations, withdraw or suspend the licence.

Frequencies for trial licences

9. A trial licence may only be issued where, in ComReg's opinion, there is scope for a full operational licence for the service under trial to be issued in the radio spectrum concerned in the future⁴. In the event that ComReg subsequently decides to make full operation licences available, the holding of a trial licence will not accord any right, entitlement, expectation or advantage to the trial licensee with regard to obtaining a full operational licence following the trial and the award of a full operational licence cannot be guaranteed.

Licence Fee

10. The fee for a trial licence will be €500 for 12 months. This fee will be reduced pro rata for shorter duration licences down to a minimum of €100.

5 Additional Conditions Attached to both Test and Trial Licences

Licence Expiry

1. Upon completion of the specified duration, the licence will expire and unless a further licence for the test/trial has been granted to the licensee the test/trial will be deemed to have ended. Permission for the use of the portion of radio spectrum assigned under the test / trial licence lapses not later than the licence's expiry. Test / trial licensees should note that when the licence expires, any prohibitions and criminal or civil liabilities imposed by law, such as under the Wireless Telegraphy Acts, as amended, may apply.

⁴ Note however that the issue of a trial licence does not imply any obligation on ComReg's part to make available a full operational licence.

The granting of a test / trial licence does not convey any right, entitlement or expectation, either implicit or explicit, to –

- (i) any renewal or replacement of the test / trial licence,
- (ii) a full licence (i.e. permission for the use of radio spectrum for purposes other than the defined testing purposes permitted under the test / trial licence), or
- (iii) any continued use of the portion of radio spectrum assigned under the test / trial licence, or to any other portion, following completion of the test / trial;
- (iv) immunity or a defence in respect of any criminal or civil liability arising upon the expiry of the test / trial licence.

Interference and Co-existence with other radio services

2. Test and Trial licences are issued on a non-protected, non-interference basis, i.e. the licence carries no guarantee of protection against interference by other users of the radio spectrum and the use which the licence allows must not cause interference to other users of the radio spectrum. If such interference does arise operation of the system under test or trial must cease immediately. Any costs incurred by ComReg or any other party in resolving interference problems arising from a test or trial licence will be borne entirely by the licensee.
3. A test or trial licence does not convey any exclusive right to the use of the spectrum which is authorised under that licence.

Access to information arising from tests or trials

4. ComReg reserves the right to require access to any test results, data or information arising from operations carried out under a test or trial licence, where this might have a bearing on interference or other spectrum management considerations. Such information will be treated as commercially confidential and will not be disclosed to any other party without the prior agreement of the licensee.

Specific Provisions

5. ComReg is also concerned to ensure consistency between the approaches to the issue of a test / trial licence and the issue of a full licence within a particular

area. This may prompt the inclusion in a test / trial licence of further specific provisions.

Consideration of Applications

6. In addition to the general conditions of the test and trial licences, the following are some of the factors which ComReg may take into account in considering whether or not to issue a test or trial licence on foot of an application:

(a) the principles of good management of the radio spectrum as a natural resource and as a public facility;

(b) existing, and possible future, frequency allocations at national and international level. (A copy of the national frequency allocation plan, entitled Table of Frequency Allocations: Ireland (ComReg document 04/77), is available from the ComReg web site (www.comreg.ie) or on request; and

(c) the nature of the test / trial for which the test/trial licence is sought.

Annex B: Suggested Text for Trial Licence Waiver Document

The following text should be included in the waiver document:

“I have agreed to participate in a radio service trial to be carried out by [name of licensee] during the period [enter estimated start and finish dates of trial]. I understand that that there is no guarantee of continued service beyond the trial period, that I am under no obligation to subscribe to any subsequent commercial service provided by [name of licensee] upon completion of the trial and that any subsequent commercial service that might be offered would not necessarily be on the same terms and conditions or at the same price as the trial.”

The document should also include:

- details of any charges that will be applied and confirmation that these are intended solely to cover the costs incurred by the licensee in running the trial,
- the duration of the trial
- a summary of the trial licence conditions and
- a full description of the trial service

Each participant should sign the document as follows:

Signature _____

Date _____

Name of Trial Participant _____

Contact Details _____