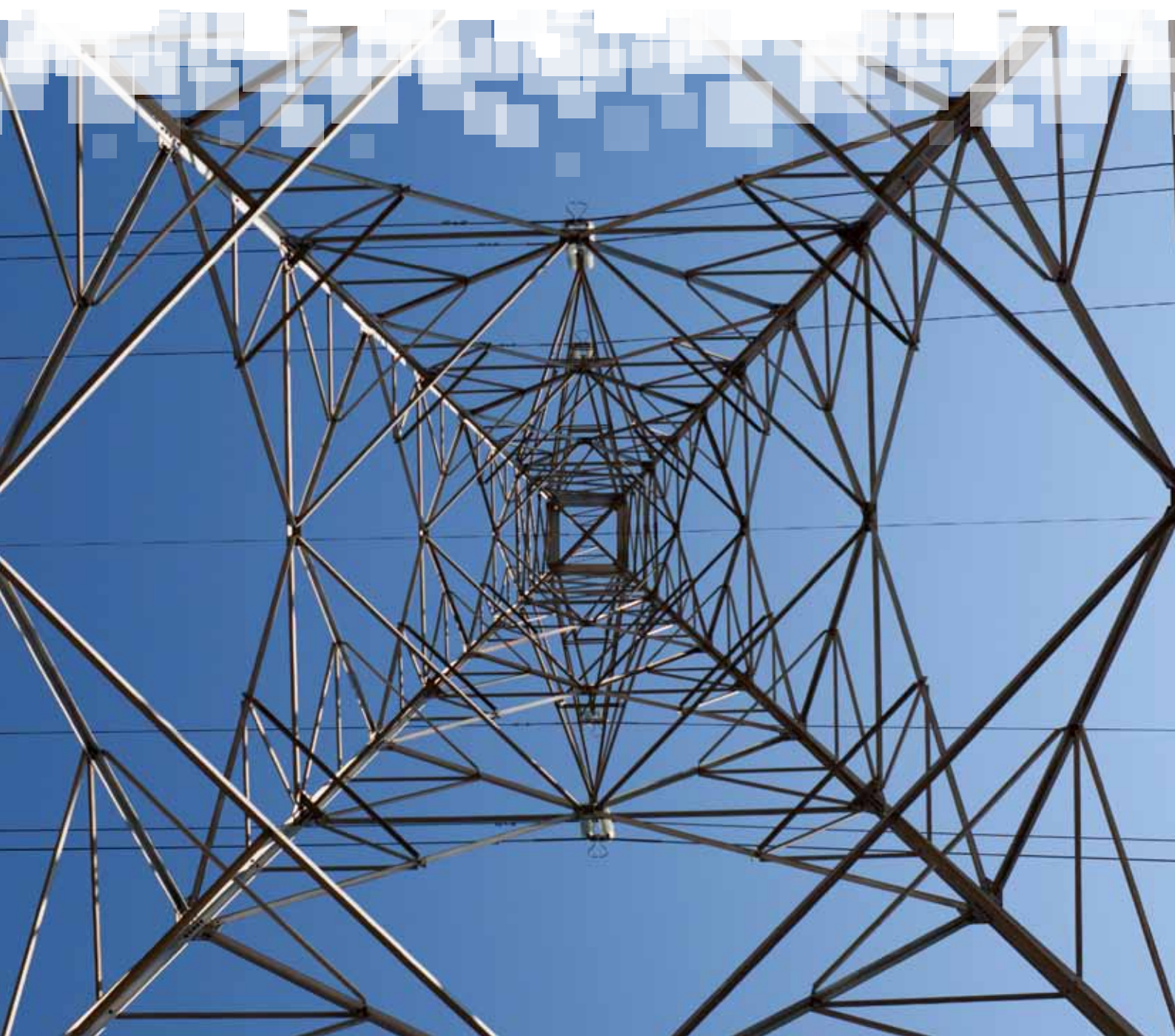




Europe

# Base Station Planning Permission In Europe





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# 1

## Acknowledgments

The material in this report was compiled by GSM Association (GSMA) staff and updated with information from members of the GSMA Europe and mobile operators' trade associations across EU Member States and third countries during the period May/July 2012. The GSMA makes no representation, warranty or undertaking with respect to and does not accept any responsibility for, and hereby disclaims liability for the accuracy or completeness or timeliness of the information contained in this document.

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# 2

## Executive Summary

Mobile network infrastructure and the adoption of mobile services are now considered as key indicators of European economies. To ensure national coverage, mobile operators are required to install base stations across the country so that every user is able to benefit from the use of mobile services.

Base stations are installed to provide geographic coverage and additional network capacity where needed. The introduction of new mobile services (e.g. 4G) requires additional, technology specific base stations. Operators may be required as a condition of their licence to install base stations to meet government or regulatory coverage targets.

Requirements and conditions that operators face in order to be granted a permit for base station deployment vary largely from one European country to the other. Procedures can be defined at different government levels, even though generally the local authority (municipality) is the main point of referral for the process. In addition, general requirements related to regional or national levels legislation usually have to be met.

The Figure 2 of this report summarizes the timescales information contained in the countries tables presented in the remaining part of this document. This graph indicates that there is a trend across Europe towards increasing timescales for granting base station permissions with the situation in Ireland, Belgium, Italy, and France worsening and only Greece reporting an improvement. In ten EU Member States (including Greece), it still takes on average one year or more to receive all permits necessary to deploy single base station antennas.

As a general observation, most delays are caused by bureaucratic and time consuming administrative permission processes, lack of cooperation with operators, or sometimes mere obstruction at the local level.

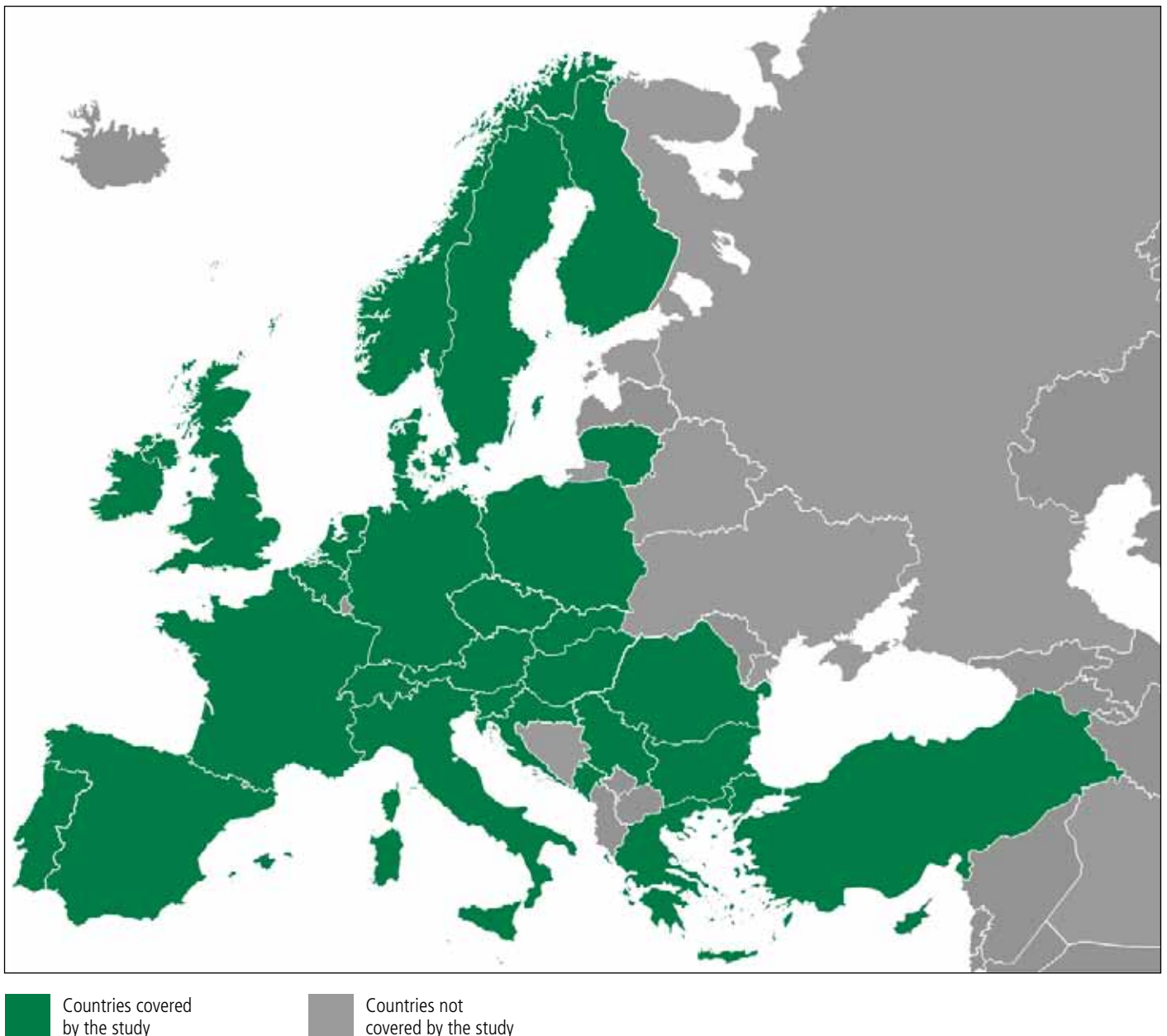
In some countries, however, mechanisms to avoid delays related to bureaucratic inefficiencies have been implemented, including exemptions for small installations or certain site upgrades, 'one stop shop' licensing procedures, and tacit approval if local authorities do not oppose an authorization request within a certain number of days.

# 3

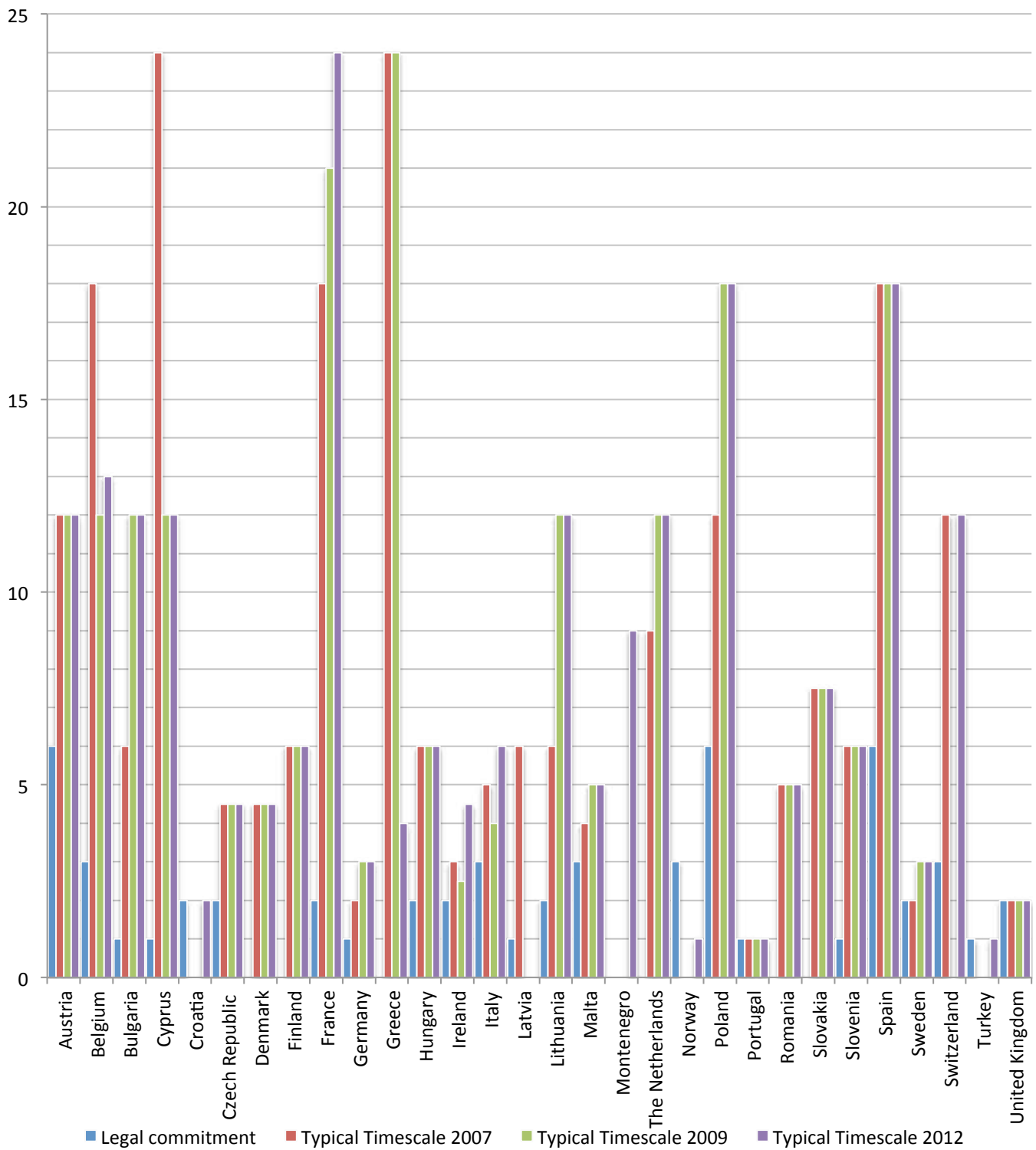
## Cross-Country Analysis

This report presents a cross-country analysis of the base station planning procedures for EU Member States and third countries. The report is based on inputs received from mobile operators and national trade associations. Figure 1 presents the countries that are covered by this report.

**Figure 1: GSMA Europe members and contributors to the report (countries)**



**Figure 2: Comparison between legal requirements and typical timescales for permission granting for base station deployment (in month)**



# 4

## Country data

4.1 Austria	
<b>Exposure guidelines</b>	<p>Federal limits are based on ICNIRP</p> <p>A growing number of municipalities have passed motions and/or resolutions trying to impose local exposure limits that vary between <math>1 \mu\text{W}/\text{m}^2</math> and <math>100 \text{mW}/\text{m}^2</math> (all of which are not legally binding) as well as exclusion zones not only around OMEN<sup>1</sup>, but also for entire municipalities.</p> <p>Both the city and the province of Salzburg try to impose very low exposure limits for radiofrequency power flux density of <math>0.001 \text{W}/\text{m}^2</math> (= <math>1 \text{mW}/\text{m}^2</math>) and tried to enforce this by withholding building permissions. However, this limit is not legally binding and has no relevance in the building permission process. In 2005 the rollout process for 3G came to a standstill in Salzburg which was resolved by implementing cooperation between city and operators ("workshop procedure") under which every new 3G site within the city of Salzburg was evaluated. While many sites happen to show exposures under the level of <math>1 \text{mW}/\text{m}^2</math> desired by the city of Salzburg, there are a considerable number of sites well above this value thereby proving that no "1 <math>\text{mW}/\text{m}^2</math> network" exists in Salzburg and that the results of the Swiss OFCOM measurements of 2001 are still valid<sup>2</sup>.</p>
<b>Planning Authority</b>	Relevant local municipality (mostly the mayor) and/or borough/county, respectively.
<b>Requirements for planning permission</b>	Vary according to location. Every province has its building and landscape protection laws. In some provinces a simple notification of the planning authority suffices, while in others a formal building permit has to be obtained (which also in some cases includes participation of the direct neighbours). Additionally, federal laws have to be obeyed and permissions under these laws, if applicable, have to be obtained (e.g. air traffic safety, forest protection, listed buildings etc.)
<b>Timescales for Permission</b>	<p>Every one of the nine provinces has its own building law which makes site acquisition and permitting more complex and far from being a standard procedure.</p> <p>Depending on the applicable law(s) (e.g. building laws of the province in which the site shall be erected) timescales vary widely. If a building permission has to be obtained, a decision to grant or refuse the application must be issued at the latest within six months of the date of the application. When the decision is not taken within six months, the appeals process needs to be initiated, which will take (at least) another six months. Often the reasons for delaying or even denying permission are politically motivated based on claimed health issues. However, health issues are dealt with in federal laws and are therefore no permissible grounds for delaying or denying permission. Further (permissible) reasons are nature and landscape protection or other legal issues.</p>

<sup>1</sup> See original GSME report 2004 footnote 6: Ort empfindlicher Nutzung (places of sensitive use) as defined in Art. 3, Para. 3 of the Provisions of the Ordinance relating to Protection from Non-Ionising Radiation of December 23rd 1999.

<sup>2</sup> The OFCOM/BAKOM report 2002 on the measurements 2001 show that an operative network in any densely populated city will require power flux densities of up to  $200 \text{mW}/\text{m}^2$ . See Report <http://www.bakom.admin.ch/dokumentation/zahlen/00545/00547/00548/index.html?lang=de>

<p><b>Appeals process</b></p>	<p>As a general rule, every administrative authority in Austria has to decide within six months. If there is no decision made within that period of time, the applicant can appeal against that delay to the superior administrative body (which also has to decide within six months). But this does not necessarily mean that a decision (whether positive nor negative) will be taken within 12 months, because there are often more than two instances involved and some local authorities tend towards deferring decisions on purpose.</p>
<p><b>Public Consultation</b></p>	<p>In most cases of a building permission procedure, neighbours are heard and have the right to object to a site. Health issues do not constitute a reason to object within the frame of the building permission procedure.</p> <p>To improve the dialogue with communities, an agreement between the Austrian operators and the Federation of Austrian Communities on voluntary information by the operators prior to site erection was concluded in 2001. This is a general agreement and not only for OMEN sites which are treated equally in Austria.</p> <p>Furthermore, operators will instigate and/or attend voluntary pre-planning meetings with local authorities as necessary.</p> <p>Beginning in 2005, "mobile phone charters" were concluded with three of the 9 Austrian provinces. Main issues are a defined participation procedure for communities that join the charter and provisions for increased site sharing.</p>
<p><b>Exemptions &amp; Existing site upgrade</b></p>	<p>Exemptions in two provinces exist, namely in Salzburg for roof tops &lt;2 m and in Upper Austria for roof tops and green fields &lt;3 m. Upgrades of existing sites have to follow the same processes as stated above unless additional antennas and equipment were included in the original plan for which a permit was already obtained ("reservations").</p>



## 4.2 Belgium

<b>Exposure guidelines</b>	<p>Brussels Capital: 3 V/m cumulative norm for all RF sources (except broadcasters).</p> <p>Walloon Region: Today, the Walloon norm is 3 V/m per antenna. The Regional Government has stated in 2009 that it wanted to lower the norm to a 3 V/m cumulative norm, with a final target of 0.6 V/m. Discussions on this issue are currently taking place at Parliament level.</p> <p>The Flemish norm is double: a 3 V/m per antenna norm for mobile operators and a cumulative 20.6V/m norm for all RF sources.</p>
<b>Planning Authority</b>	<p>Regional administrations</p>
<b>Requirements for planning permission</b>	<p>Planning has to comply with regulations at all levels of governments (local, regional, federal). Building permissions are required for most of the installations in Brussels and the Walloon Region. The situation is different in Flanders where building permits exemptions are applicable in 60% of the cases.</p> <p>On top of that, environmental permissions are required on EMF aspects:</p> <ul style="list-style-type: none"> <li>▪ In Brussels, an environment permit is delivered by Brussels Environment for each installation, after local authorities consultation and local public enquiry;</li> <li>▪ In Wallonia, a “radiation certificate” delivered by the ISSeP has to be notified to the local authorities;</li> <li>▪ In Flanders, a “radiation certificate” is delivered by the BIPT.</li> </ul>
<b>Timescales for permission</b>	<p>Regarding building permits: average is 400 days in Brussels Region, 130 days in Walloon Region and 180 days in Flanders.</p> <p>Regarding environmental permits, the timescales are lower.</p>
<b>Appeals process</b>	<p>Regarding building permits, appeals go directly to the relevant Ministry or Council of State. The appeal process takes from three to 24 months. Regarding environmental permits in Brussels, appeals go first to Environmental authority, then to the relevant Ministry, and finally to Council of State.</p>
<b>Public Consultation</b>	<p>Local authorities publish notices on sites and make information available in the Town Council offices.</p>
<b>Exemptions &amp; Existing site upgrade</b>	<p>Limited amount of exemptions in Brussels and Wallonia. More exemptions in Flanders (60% of cases).</p>

## 4.3 Bulgaria

<p><b>Exposure guidelines</b></p>	<p>Power density thresholds are set to 0.1 W/sqm at all GSM900, GSM1800 and UMTS that are much stricter than these defined by ICNIRP. Mobile operators in Bulgaria strictly observe the statutory values set forth in ORDINANCE No 9 of the Minister of Healthcare and the Minister of Environment for the admissible limit values of electromagnetic fields in residential areas and determination of safety zones around EMF emitting facilities. These limit values are mandatory and are subject to control by the National Center of Public Health Protection.</p> <p>The compliance with the ORDINANCE No 9 is controlled during the design phase and the process of obtaining permits for construction of base stations as well as during their putting into operation.</p>
<p><b>Planning Authority</b></p>	<p>Ministry of Healthcare for preliminary sanitary control – design phase. Local municipalities for Building permit and permit of Use.</p>
<p><b>Requirements for planning permission</b></p>	<p>In accordance with the parameters of Ordinance No 9 each base station is subject to ex-ante (preliminary) and ex-post health impact control by the Ministry of Healthcare.</p> <ul style="list-style-type: none"> <li>▪ Preliminary control: During design phase of a base station, a theoretical calculation of safety zone is submitted to Ministry of Healthcare. The positive assessment from Ministry of Healthcare is a mandatory prerequisite for the issuance of a Building permit for base stations.</li> <li>▪ The ex-post health impact control carried out after the construction of the base station has been completed and before putting it into operation. During on-air tests of a base station, laboratory which is certified for EMF measurements, measures power density in the surrounding area. It is wideband measurement, including all EMF emitting objects in the area – base stations, TV and radio transmitters, etc. If the measured values do not exceed the limits, we obtain permit of Use for this base station.</li> <li>▪ Measurement protocols have to be registered at Ministry of Healthcare as well as at local municipality.</li> <li>▪ Once a base station is operational, local representatives of Ministry of Healthcare can make control measurements at any time and location</li> </ul>
<p><b>Timescales for permission</b></p>	<p>Requests for preliminary EMF expertise should be answered within one month, but in reality it takes more time.</p> <p>The procedures for obtaining all permissions needed for construction and start operating a base station are quite complex. Typical timescale goes more than one year for all permissions. Worst cases - more than two years.</p>
<p><b>Appeals process</b></p>	<p>An appeal can be filed against the Decision or action of an Authority with the Court of Appeal</p>
<p><b>Public Consultation</b></p>	<p>The local municipality has to make information available at city hall office.</p>
<p><b>Exemptions &amp; Existing site upgrade</b></p>	<p>Site upgrades must follow the same process as new sites – no exceptions.</p>

## 4.4 Cyprus

<p><b>Exposure guidelines</b></p>	<p>The ICNIRP guidelines have been adopted by legislation in 2004. The legislation has been recently updated to include the UMTS and DVBT sources. Additionally the measurements in the vicinity of a base station should be performed at three places around the base station in a distance less than 100m in residential areas and at two places in case the distance to the nearest building is more than 200m. Due to the public concern and the pressure from green parties the Department of Electronic Communication (DEC), the EMF measurements are conducted every six months on every base station, since 2005. The measurements should be done only by accredited laboratories. That project is implemented in collaboration with the University of Cyprus. The results are delivered to DEC and are posted on their webpage.</p>
<p><b>Planning Authority</b></p>	<p>Municipality and Ministry of Interior's Planning and Housing Department.</p>
<p><b>Requirements for planning permission</b></p>	<p>Vary according to type and location. All base stations have to comply with the Cypriot legislation formed in 2006 as the new guidelines were incorporated in the National Building Code. Municipalities provide permits to cases where a base station is installed on roof tops. Planning and Housing Department provide permits for base station installed on rural plots. In residential areas usually both permits, planning and building, are needed. In cultural or developing areas, both permits are needed and sometimes an environmental risk assessment should be performed. In most cases where location makes it necessary, base stations need to assure approval from the Civil Aviation Department, Archaeological Department, Forestry Department and the Fire Department, Local authorities, Department of Electronic Communication, Department of Medical Care, Department of Civil Works and Department of Environment. All base stations have to comply with the guidelines of Ministry of Health and the Department of Electronic meeting Environmental Impact Assessment standards.</p> <p>Achieving a building permit under the existing legislation is difficult and time consuming. The interacting Departments are often confused with regards to their authorities and in many cases there are overlapping requirements by the different departments causing delays and in some cases unjustified rejection of permits.</p>
<p><b>Timescales for permission</b></p>	<p>The original provision of six weeks contained in the new legislation is hardly ever kept by the Authorities. Typical timescales go up to one year. Worst cases two years.</p>
<p><b>Appeals process</b></p>	<p>Appeals go through administrative courts within 21 days of rejection of the permit.</p>
<p><b>Public Consultation</b></p>	<p>Not mandatory, but requirements may vary. The company's policy is to make publications in local newspapers when a new base station is about to be installed (in compliance with the Law).</p>
<p><b>Exemptions &amp; Existing site upgrade</b></p>	<p>Upgrades are evaluated following the procedures for new base stations. Indoor antennas are excluded from building permits.</p>

## 4.5 Croatia

<b>Exposure guidelines</b>	Based on national law document. Similar to ICNIRP, but more restrictive, for example, Croatian limits for professional exposure are equal to ICNIRP for general public. National – By Law on protection from electromagnetic fields (Ministry of Health, 2011). Exposure limits depend on frequency range, e.g. for 400-2000 MHz in areas of significant sensitivity (public and residential buildings, schools, hospitals etc.) Limits applicable for professional exposure (workplaces occupied for max eight hours with controlled exposure), are 2.5 times higher.
<b>Planning Authority</b>	Local and regional authorities
<b>Requirements for planning permission</b>	Base stations shall be designed fulfilling requirements contained in the Building Code and Ordinance on simply construction and works. There is no obligation to obtain location permit and building permit, but there is obligation to obtain standardized project which is approved by the relevant authority. Permission from the civil aviation authority is needed. A building permission has to be obtained if standardized project was not made.
<b>Timescales for permission</b>	If a building permission has to be obtained, a decision to grant or refuse the application must be issued within 60 days of the date of the application.
<b>Appeals process</b>	When the decision is not taken within 60 days, the appeals process needs to be initiated, which will take at least 6 months.
<b>Public Consultation</b>	Not mandatory.
<b>Exemptions &amp; Existing site upgrade</b>	Upgrade is allowed without further permission if it does not involve any change in terms of construction work.

## 4.6 Czech Republic

<b>Exposure guidelines</b>	ICNIRP guidelines were adopted in 2000. They were specified in Governmental Decree No.480/2000. Currently the Governmental Decree No.1/2008 is valid (still ICNIRP, without any changes)
<b>Planning Authority</b>	Municipality's building department
<b>Requirements for planning permission</b>	Generally, a planning permission is required for new base station. For rooftop structures a planning permission has to be granted, while for open landscape structures reporting activity to the building department is needed in addition to this planning permission.
<b>Timescales for permission</b>	One to eight months. The legal commitment of granting permission in two months is respected in the majority of cases.
<b>Appeals process</b>	If the permission is not granted and appeal can made within 15 days to the local administration or within 60 days to the administrative court.
<b>Public Consultation</b>	Citizens may submit comments only in cases when permission is needed.
<b>Exemptions &amp; Existing site upgrade</b>	Upgrade is allowed without further permission if it does not involve any change in terms of construction work.

## 4.7 Denmark

<b>Exposure guidelines</b>	EU Recommendation. Labour Inspectorate follows the ICNIRP recommendations when evaluating exposure, Public and Occupational.
<b>Planning Authority</b>	Municipality
<b>Requirements for planning permission</b>	Building permits. The applicant has to inform the Danish Business Authority about the application process.
<b>Timescales for permission</b>	Generally three to six months. Worst cases up to four years.
<b>Appeals process</b>	Appeals can be made to the Ministry of Internal Affairs.
<b>Public Consultation</b>	The municipality has to inform the citizens impacted.
<b>Exemptions &amp; Existing site upgrade</b>	Simple upgrades (as long as height on existing structure is not exceeded) or sharing of sites do not require further permissions, but notification of the site upgrade need to be submitted to authorities.

## 4.8 Finland

<b>Exposure guidelines</b>	ICNIRP
<b>Planning Authority</b>	Municipality. Procedure defined by the regulator (FICORA)
<b>Requirements for planning permission</b>	A building permit is required. An impact analysis has to be attached to the application together with an evaluation of options such as usage of existing sites. For base stations higher than 15 meters permission from the civil aviation authority is needed. Additionally, special permissions have to be granted before building permits if a town plan is not in place. Base station in building needs only approval of the landlord.
<b>Timescales for permission</b>	There is no timescale specified in the legislation. In practice however, permission can take one to 24 months, with the average being six months.
<b>Appeals process</b>	Appeals can be made within 15 days to the local administration or within 30 days to the Provincial Administrative Court. This can lead to delays of up-to two years.
<b>Public Consultation</b>	The operator has to inform the community and make information available at the local municipality offices.
<b>Exemptions &amp; Existing site upgrade</b>	None

## 4.9 France

<b>Exposure guidelines</b>	Decree of May 3, 2002 decree on public exposure to electromagnetic fields limits. Compliance with the exposure limits for EMF fields fixed by the ICNIRP, in 1998 and 2009.
<b>Planning Authority</b>	Mayor (Municipalities) and French Frequency Authority (Agence Nationale des Fréquences – ANFr) for the emission license. <sup>3</sup>
<b>Requirements for planning permission</b>	Compliance with the urban planning Code. Planning permission is mandatory for : <ul style="list-style-type: none"> <li>▪ New constructions: building of a mast higher than 12m or creation of a shelter, whose surface exceeds 5 m<sup>2</sup>;</li> <li>▪ Existing constructions: whenever <ul style="list-style-type: none"> <li>– The new construction affects the outside aspect of an existing building ;</li> <li>– There are changes in the shelter, with creation of a surface that exceeds 5m<sup>2</sup>.</li> </ul> </li> </ul>
<b>Timescales for permission</b>	Legally required timescales for Planning permission vary from one month (for simplified procedure “Déclaration Préalable” without consultation) to more than five months for building permit.
<b>Appeals process</b>	Appeal procedures are handled by administrative courts. <sup>4</sup>
<b>Public Consultation</b>	Guide of Best Practices with local authorities “Guide des relations entre opérateurs et communes” (GROC).  NB: there might be local agreements, usually based on GROC, between operators and municipalities in order to define local deployment and information procedures.
<b>Exemptions &amp; Existing site upgrade</b>	Masts below 12 meters, equipment not affecting the outside aspect of existing building, shelters < 2 sq. meters.  The following cases are exempted from a planning permission: <ul style="list-style-type: none"> <li>▪ <b>New constructions:</b> building of a mast less or equal to 12 m or creation of a shelter, whose surface less than 5 m<sup>2</sup> ;</li> <li>▪ <b>Existing constructions:</b> whenever <ul style="list-style-type: none"> <li>– the new construction does not affects the outside aspect of an existing building ;</li> <li>– There are no changes in the shelter and surface is smaller than 5 m<sup>2</sup>.</li> </ul> </li> </ul> NB: Micro base stations with EIRP below 5 W don’t need to go through the consultation process at the ANFR and simple declaration is needed. For higher power base stations, the emission permit is issued after a consultation with other spectrum partners by the ANFR.

<sup>3</sup> In October, 2011, the State Council (Conseil d’Etat - highest administrative court in France) conclude that local authorities cannot decide upon the construction of new mobile masts beyond urbanism-only considerations. The State (through mandated national agencies ARCEP and ANFR) is therefore the only competent authority to regulate on the installation of new masts or to regulate on emission limits. The precautionary principle shall not then be used by local authorities as a tool to justify their decisions on mobile mast deployment.

<sup>4</sup> In October 2011, the Cassation Court (Supreme Court) asked the Jurisdiction Court to say which of the civil courts or the administrative courts were competent regarding conflicts on cellular antennas’ siting. In six decisions, the Jurisdiction Court confirmed (May 2012) that the administrative courts are competent to hear disputes concerning the dismantlement or the ban of cellular antennas.

According to the Jurisdiction Court, “actions meant to obtain the shut-down, the prohibition of the construction, the removal or the displacement of a duly authorized base station, sited on public or private property, on the grounds that its functioning could compromise the health of people leaving in the neighborhood or lead to interferences,” is a matter for the administrative judge.

For more information, please refer to the governmental leaflet about roll out of the antennas: <http://www.radiofrequences.gouv.fr/spip.php?article101>

## 4.10 Germany

<b>Exposure guidelines</b>	ICNIRP Guidelines
<b>Planning Authority</b>	Local planning authorities and BnetzA
<b>Requirements for planning permission</b>	A site certificate from BnetzA is mandatory for all sites. This ensures compliance with exposure guidelines and other technical requirements. Permission from local planning authorities is mandatory for all installations higher than 10m. Once the site has been constructed and before it is activated emissions authorities have to be notified.
<b>Timescales for permission</b>	Typically less than six weeks. More than one year in worst cases.
<b>Appeals process</b>	Legal proceedings against the local authority can take up to three years, but these occur in rare cases if the operator fulfils all the requirements for the process of site acquisition.
<b>Public Consultation</b>	A public consultation process with local communities is mandatory for all operators and has to start before the application for a site certificate.
<b>Exemptions &amp; Existing site upgrade</b>	In several states (but not all) there are exemptions for installation with poles/masts below 10 m and shelters of less than 10 m <sup>3</sup> . Upgrades of existing sites have to follow the same process as new sites unless the compliance area of the planned installation lies completely within the compliance area of the existing installation.

## 4.11 Greece

<b>Exposure guidelines</b>	<p>The Greek Atomic Energy Commission (GAEC) annually audits at least 20% of urban area base stations for compliance to the above limits. Supplementary audits are carried out following requests by the national telecom regulator EETT or any natural or legal person with vested interests.</p> <p>The National EMF Observatory (presently being organised) is responsible for year round continuous monitoring of emissions from all base stations over the entire territory.</p>
<b>Planning Authority</b>	The national telecom regulator EETT issues the Operation License.
<b>Requirements for planning permission</b>	<p>The EETT assumes the role of a one-stop-shop licensing agency whereby applications are filed through an Electronic Application Filling System (EAFS – under construction) and subsequently forwarded to the various competent authorities/agencies for co-current issuance of the relative authorisations/approvals. The competent authorities should respond back to the EETT through the EAFS within four months.</p> <p>The said competent authorities/agencies are:</p> <p>The Hellenic Civil Aviation Authority (HCAA – airway safety); the GAEC (exposure limits); the competent Prefecture Office (Standard Environmental Commitment for most base stations or Environmental Impact Study in cases of base stations requiring road work or are located in natural habitat areas); the EETT (frequency allocation); the local Forestry Authority (for rural base stations); the competent Archaeology Agency (cases related to sights of historic relevance) and the local Building Authority (construction Approval – not a permit)</p>

<b>Timescales for permission</b>	<p>For applications filed following the issuance of Telecom Law 4070/2012 respecting new base stations or the upgrading of existing ones, base station construction is allowed four months after the filing of the application with the EETT. Specifically, by the end of the four month period as of filing, the EETT will issue either an Operation License (if all competent authorities have issued their authorisations/ approvals) or a Certificate of Application Completeness (if authorisations/approvals by the competent authorities/agencies are pending, as long as there are approvals by the HCAA and the GAEC, and frequency approval by the EETT). The Certificate is replaced by an Authorisation when all authorisations/approvals are obtained; otherwise, construction is repealed.</p> <p>For base stations which existed prior to the issuance of Telecom Law 4070/2012, the completion of the process of obtaining all relevant approvals/authorisations is 24 months, given that the relevant paper work cannot be processed through the new EAFS.</p> <p>Prior to the issuance of Telecom Law 4070/2012, the timescale for the entire process respecting the issuance of Operation Licences exceeded two years.</p>
<b>Appeals process</b>	<p>An appeal can be filed with the Administrative Court of Appeal regarding individual administrative EETT Decisions or EETT Decisions pertaining to penalties. Against EETT Regulatory Decisions, appeals can be filed with the Council Of State. Disputes regarding construction Approvals are resolved at the Administrative Court of Appeals. Appeals regarding decisions of the Administrative Courts are filed with the Council of State. All initial appeals should be filed within sixty days as of Decision notification date. Indicative timescales for appeal hearings vary considerably between six to twenty four months approximately.</p>
<b>Public Consultation</b>	<p>Public consultation is indirectly achieved via the involvement of a multitude of competent authorities/agencies which protect the public's interest.</p>
<b>Exemptions &amp; Existing site upgrade</b>	<p>Micro base stations (with total effective radiated power below 164 W EIRP) or indoor antenna require a simpler licensing procedure.</p>

## 4.12 Hungary

<b>Exposure guidelines</b>	<p>National limits are based on ICNIRP</p>
<b>Planning Authority</b>	<p>Local building authorities as part of the local municipalities issue the building permit. If site is located in/on the national monument, the building permit is issued by the regional office of the National Office of Cultural Heritage.</p>
<b>Requirements for planning permission</b>	<p>Building permit is required for new sites when the complete size of the antenna is bigger than four meters or the complete size (including antenna) of the mast is bigger than six meters. Building permit is required for new sites if it is located in/ on a national monument independently from the size of antenna or mast. General technical requirements are set by the National Construction Constitution.</p>
<b>Timescales for permission</b>	<p>The permission period typically six months, according to regulations. Worst cases were 2 years.</p> <p>A new regulation was issued on 1 October 2007 (with small modifications of the old reg.). (New update of the 37/2007 ÖTM resolution).</p> <p>The length of a process mainly depends on, how many specialised authorities are involved (National Public Health and Medical Officer Service, National Communications Authority, etc.).</p>



<b>Appeals process</b>	If the local municipality does not give permission the operators can put a request to the regional authority. At the third stage the administrative court intervenes. This may lead to a one year delay.
<b>Public Consultation</b>	Public consultation with local communities is not mandatory. In cases where a planning permission is required local authorities publish notices (news-board, rarely local newspaper) and make information available in the City Hall offices. In cases where a planning permission is not required we only take action (public hearing, article in local newspaper) for example if the public anger interrupts the site establishment process.
<b>Exemptions &amp; Existing site upgrade</b>	Site upgrades must follow the same process as new sites – no exceptions. In addition we have to ask building permit if we reinforce the existing foundation of the mast or the mast itself.

## 4.13 Ireland

<b>Exposure guidelines</b>	COMREG (ICNIRP Guidelines)
<b>Planning Authority</b>	Local Authorities
<b>Requirements for planning permission</b>	All deployment is governed under the National Planning Acts. Support structures need planning permissions. Albeit, urban development on buildings is generally planning exempt.
<b>Timescales for permission</b>	Three - six months, typically.
<b>Appeals process</b>	If refused by Local Authority, a request can be sent to a Planning appeals board for consideration. This leads to a further three to nine months delay.
<b>Public Consultation</b>	Planning notices must be posted on site, notices must be published in newspapers and plans available for inspection at Local Authority Offices. The public have a five week window from date of council receipt of the application within which to make observations or submissions to the proposed development. Voluntary meetings with local communities may take place.
<b>Exemptions &amp; Existing site upgrade</b>	Exemptions may apply to adding antennas and dishes to existing support structures and similarly to commercial buildings where the antennas don't rise more than 2 m above the roof.

## 4.14 Italy

<p><b>Exposure guidelines</b></p>	<p>EMF limits for Radio Base Stations are up to 100 times lower than ICNIRP: the Italian Law 36/2001 introduced three different set of limits, applicable to all radio base stations (2G and 3G)</p> <ul style="list-style-type: none"> <li>▪ “exposure limit”, based on “health acute effects”: 20 V/m</li> <li>▪ “value of attention”, intended as a “a precautionary measure for the protection from possible long-term side-effects”: 6 V/m “indoor”, where people can stay for more than four hours each day, balconies included, rooftops excluded.</li> <li>▪ “quality target”, to minimize the EMF exposure for the population: 6 V/m outdoor (for areas identified by municipalities as highly attended by people)</li> </ul> <p>The 6 V/m limit (0.1 W/m<sup>2</sup>) is 100 times lower than the EU limit set by the EU Recommendation 1999/519 for the 3G frequencies (10 W/m<sup>2</sup>)</p>
<p><b>Planning Authority</b></p>	<p>Municipalities (planning issues and overall responsibility for the authorization process) and Regional Environmental Authority (providing advice to Municipality on the EMF impact of each Radio base Station).</p>
<p><b>Requirements for planning permission</b></p>	<p>Planning permission is required in order to construct a new site in Italy. Compliance with the national Electro Magnetic Field exposure limits, specific urban planning and building rules are required. In addition, town planning regulations must be met if in place.</p>
<p><b>Timescales for permission</b></p>	<p>Decree no. 259/2003 has established that if local authorities do not oppose an authorization request within 90 days, the authorization is considered to be effective.</p>
<p><b>Appeals process</b></p>	<p>Appeals decisions are assigned to regional administrative courts. In second instance the administrative court of the Lazio region intervenes. The process can be delayed of up to three years as a consequence.</p>
<p><b>Public Consultation</b></p>	<p>The Regional Environmental Agency has to be consulted as part of the permission procedure: many agencies have set up a web-based register of all EMF sources, which can be accessed by the population on the internet.</p>
<p><b>Exemptions &amp; Existing site upgrade</b></p>	<p>Exemptions: a simplified procedure (DIA) has been defined for sites with power below a set threshold (20 Watt); however, the local authorities can still oppose these applications within a given time frame. Existing site upgrade: Decree n. 259/2003 has established a process for site upgrades which is very similar to the process for a new site installation. A new EMF advice has to be issued by the Regional Environmental Authority; even for changes of radio parameters only (e.g. tilt modifications, new transmitters leading to power output increase, etc.). The same “full” process is applied in case of site-sharing, e.g. when two operators decide to share the same infrastructure, even if the hosting infrastructure was already authorized by the local authority.</p>

## 4.15 Lichtenstein

<b>Exposure guidelines</b>	Liechtenstein's thresholds are set from 4 (GSM900) to 6 V/m (GSM1800 and UMTS) in sensitive areas and places, like flats, houses, workplaces, schools, etc. On other areas ICNIRP guidelines have been adopted.
<b>Planning Authority</b>	Office of environmental protection (AUS) Office of building (HBA)
<b>Requirements for planning permission</b>	Permissions are needed both from the office of environmental protection and from the office of building.
<b>Timescales for permission</b>	Depends on the location. The numbers of new sites in the last 10 years were very low (2) and too less to estimate any time frame.
<b>Appeals process</b>	Within 14 days an appeal can be filed. The jurisdiction depends on what kind of appeal.
<b>Public Consultation</b>	Depends on the location of the site.
<b>Exemptions &amp; Existing site upgrade</b>	Site upgrades must follow the same process as new sites – no exceptions.

## 4.16 Lithuania

<b>Exposure guidelines</b>	Local guidelines on power flux density 10 $\mu\text{W}/\text{cm}^2$ applies derived from old USSR guidelines still applies. Sites construction on kindergartens and medical institutions is not allowed.
<b>Planning Authority</b>	Roof- top sites: building owners - to obtain initial agreement; regional public health centre - to review and agree on EMF and RF part of the project; regional centre of Department of Cultural Heritage under the Ministry of Culture – to agree on project for sites in cultural heritage zones; NRA – just to register RF and EMF parts of sites projects.  For tower sites regional municipality is involved in addition to authorities listed above.
<b>Requirements for planning permission</b>	Roof-top sites: informal form to get initial permit from site owners; EMF and RF part of the project must be designed, reviewed by and agreed with regional public health centre; EMF and RF part must comply with exposure and exclusion zones guidelines. Projects for sites in cultural heritage zones must confirm with regulations for the zones.  After site launch EMF monitoring plan must be designed plus health certificate confirming that site corresponds to requirements must be obtained.  Tower sites – typical procedure for building permit is required so full construction project to be obtain building permit is required. All other requirements are the same as for sites on buildings.  As in 2012 the authorities are considering possibly changes to regulation in this area.

<b>Timescales for permission</b>	<p>Roof- top sites legal scale is two months. It includes 20 working days or one month for RF part / EMF expertise before site launch. After sites launch EMF monitoring measurements are made; one month timeline for EMF measurements review and agreement is set; 12 working days for health certificate issuing is set.</p> <p>Tower sites – building permit must be issued in one month after detailed plan is prepared. But no timescale set preparation of legal plan are set.</p> <p>Typical timescale for roof- top sites – two months.</p> <p>Typical timescale for tower sites now is extended to 12 months from six months. It has happened due stricter building permits issuing procedure. In few occasions obtaining of site permits may take up to two to three years.</p>
<b>Appeals process</b>	<p>No appeals for roof-top sites as owners decide what to do with his property.</p> <p>For tower sites reiterations are allowed if permissions are not granted. Also standard three level court procedures involving three levels of courts (parish court, district court, supreme court) apply.</p>
<b>Public Consultation</b>	<p>Roof- top sites – only building owners needs to be consulted and agreed during initial negotiations.</p> <p>Tower sites – mandatory during detailed plan coordination and confirmation with public consultations. Typically consultation involves neighbouring inhabitants but can involve any other persons.</p>
<b>Exemptions &amp; Existing site upgrade</b>	<p>Exemptions for in building sites and repeaters.</p> <p>Formal procedure for upgrades are the same as new site but the task is much easier as initial project and work can be reused in big extent.</p>

## 4.17 Malta

<b>Exposure guidelines</b>	ICNIRP guidelines
<b>Planning Authority</b>	Malta Environment and Planning Authority (MEPA)
<b>Requirements for planning permission</b>	Planning application required for site installation on agricultural buildings in the countryside, beach room, kiosk, fireworks factory which happen to be outside the defined Development Zone. Also included are outside development zone areas intended for parking of vehicles or storage of machinery, scheduled property and listed buildings.
<b>Timescales for permission</b>	Minimum three months. Can take longer in sensitive areas. Typical four to Six months.
<b>Appeals process</b>	Submission to MEPA Planning appeals board.
<b>Public Consultation</b>	In cases where a planning permission is required the application will also be made public for informative purposes.
<b>Exemptions &amp; Existing site upgrade</b>	No permits required for installations in non-sensitive sites or buildings with the Development Zone.

## 4.18 Montenegro

<b>Exposure guidelines</b>	National limits are based on ICNIRP
<b>Planning Authority</b>	Municipalities.
<b>Requirements for planning permission</b>	Building permits are required for all new sites. In order to get the building permit the operator has to have: the radio permit issued by NRA; the electrical power approval issued by Montenegrin Electrical Power Trade; the fire protection approval issued by Ministry of Internal Affairs and the ecological approval issued by municipality.
<b>Timescales for permission</b>	Typically 12 months (it takes six months to get the ecological approval).
<b>Appeals process</b>	If the municipality does not provide the permission, operators could appeal to The Ministry of Sustainable Development and Tourism.
<b>Public Consultation</b>	Public consultations with local communities are mandatory.
<b>Exemptions &amp; Existing site upgrade</b>	Exemptions for indoor repeaters. Existing site upgrades are considered as adaptation, and only requested is the radio permit update.

## 4.19 The Netherlands

<b>Exposure guidelines</b>	ICNIRP guidelines
<b>Planning Authority</b>	Municipality
<b>Requirements for planning permission</b>	The National Antenna Policy sets tiers of requirements according to size of masts: full building permit (more than 40 m), light building permit (5 to 40m). Installations shorter than 5 m do not need a building permit but requirements are adjusted with a pre-planning meeting with municipalities. For residential buildings, tenants are involved in the building process for antennas below 5 meters. (If 50% of more of the tenants is not in favour, they can stop the building process).
<b>Timescales for permission</b>	Permissions with light requirements normally take three to five months. Full requirements permissions take 9 - 15 months to be granted.
<b>Appeals process</b>	Appeal processes go through civil courts and this can add up to five months delay.
<b>Public Consultation</b>	The self-regulatory agreement of the industry with the government provides a mandatory consultation with municipalities (at least once a year) and with tenants of residential buildings.
<b>Exemptions &amp; Existing site upgrade</b>	Most upgrades are permit-free – depends on construction and environmental impact.

## 4.20 Poland

<b>Exposure guidelines</b>	National Law (not based on ICNIRP). 0.025 W/m <sup>2</sup> for unlimited exposure duration for frequencies from 300 MHz to 3000 GHz.
<b>Planning Authority</b>	Municipality or local government
<b>Requirements for planning permission</b>	Requirements are defined at the national level through five acts: Spatial Development Rules, Building permission, Environmental Law, permission for EMF emission and permission for operation.
<b>Timescales for permission</b>	A new tower – theoretically six months but practically from 18 months to 24 months. An upgrade – from zero months (the construction < 3 m) to six months (with protests) but practically from zero months (the construction < 3 m) to 24 months (with protests).
<b>Appeals process</b>	Appeals can go through three instances to Local, Provincial and High Courts. This adds to up to three years delay.
<b>Public Consultation</b>	The local authority has to provide information to the public. Public consultations take place as meetings but are not mandatory in most cases.
<b>Exemptions &amp; Existing site upgrade</b>	Upgrades go through the same process as new sites.

## 4.21 Norway

<b>Exposure guidelines</b>	National limits based on ICNIRP.
<b>Planning Authority</b>	Municipality
<b>Requirements for planning permission</b>	Each green field base station requires a building application. If the area (space) is regulated for agricultural area, outdoor life area, natural area, etc., dispensation application has to be sent as well as the building application to the Planning Authority. If the mast is higher than 2 meters a report has to be sent to The National register over obstructions to air navigation (NLR).
<b>Timescales for permission</b>	Typically three months. Delays from six months up to two years are not unusual.
<b>Appeals process</b>	Different stakeholders e.g. neighbours can appeal to the next-level authority which is the county administrator.
<b>Public Consultation</b>	The applicant (the mobile operator in this case) has to inform the citizens impacted.
<b>Exemptions &amp; Existing site upgrade</b>	Simple upgrades or sharing of sites do not require further permissions. Roof top sites, e.g. antennas at apartment buildings, where the antennas don't rise 2 m above the roof do not require applications.

## 4.22 Portugal

<b>Exposure guidelines</b>	ICNIRP
<b>Planning Authority</b>	Municipality
<b>Requirements for planning permission</b>	A building permission is needed for all new sites. Decree-Law 11/2003 regulates it. In all cases compliance with radiofrequency exposure limits and specific urban planning and building rules must be met. Rooftop installations on residential buildings require an authorization from owners.
<b>Timescales for permission</b>	The local municipality has to clear a request in 30 days. Otherwise, tacit approval.
<b>Appeals process</b>	Through administrative courts. Delay up to two years.
<b>Public Consultation</b>	Not mandatory.
<b>Exemptions &amp; Existing site upgrade</b>	Temporary base stations and site upgrades do not need planning permissions.

## 4.23 Romania

<b>Exposure guidelines</b>	ICNIRP
<b>Planning Authority</b>	Municipality
<b>Requirements for planning permission</b>	Building permit (requires lease contract, construction project, neighbour agreement in case of towers, agreement from all or 50%+1 the tenants and notarial agreements for the direct affected tenants in case of apartment buildings), Radio Emitter permit from National regulator and Public Health Institute impact study. Requirements from local authorities for building permit may vary and some have even forbidden the construction of mobile telephony base stations within city limits
<b>Timescales for permission</b>	Four to 12 months. Typically five months.
<b>Appeals process</b>	Negotiation processes or finding new sites are generally preferred to formal appeal.
<b>Public Consultation</b>	Not mandatory.
<b>Exemptions &amp; Existing site upgrade</b>	Upgrades go through the same process as new sites.

## 4.24 Serbia

<p><b>Exposure guidelines</b></p>	<p>Exposure limits are based on ICNIRP, but scaled down.</p> <p>The bylaw setting the exposure limits is based on the ICNIRP / 1999/519/EC recommendation. It introduces a system of Basic restrictions and Reference levels. The Basic restrictions have the ICNIRP values, but the Reference levels are scaled down 6.25 times (comparing power density), allegedly based on paragraph 15 of the 1999/519/EC recommendations preamble (Member States may, in accordance with the Treaty, provide for a higher level of protection than that set out in this recommendation).</p> <p>Furthermore, <i>Significant Non-Ionizing radiation sources</i> are defined as non-ionizing radiation sources that can generate EM fields with power densities higher than 1% of the Reference levels, within sensitive areas. It is also stated, in the Law on Non-Ionizing radiation protection, that these <i>Significant sources</i> "may be hazards to health according to the best available scientific knowledge" Compared to the ICNIRP: a safety factor of 10 provides sufficient protection for occupational exposure and a safety factor of 50 does so for the general public; in Serbia, if the safety factor is less than 31,250, the source "may be hazards to health".</p>
<p><b>Planning Authority</b></p>	<p>Relevant local municipality.</p>
<p><b>Requirements for planning permission</b></p>	<p>Vary according to type location. For Rooftops, no building permit is required, only the Non-Ionizing legislation process (in most cases, calculations are submitted, and certain measures are then set: always the first measurement, for some locations also periodical measurements; on occasions, an Environment estimation Study is requested)</p> <p>Additionally, general construction laws have to be obeyed and permissions under these laws, if applicable, have to be obtained (e.g. air traffic safety, forest protection, fire protection etc.)</p>
<p><b>Timescales for permission</b></p>	<p>Vary according to municipality. The laws are the same, but personal attitude on base stations of the people working in the local planning and environment authorities determines the timescale.</p>
<p><b>Appeals process</b></p>	<p>Depends on the licence requested. Some appeals go to second stage of making decisions; some go directly to the Ministry. In case they rule us out twice, we can go to court. The periods in which we must appeal are usually eight or 15 days, whilst typical legal period for the authorities to respond is 30 days. We must respect the periods, the authorities not so much.</p>
<p><b>Public Consultation</b></p>	<p>The only legal way for the public to state their opinion is in those cases where a 'study of environmental influence' is requested. Once finished, the study is publically displayed for 40 days, and all interested parties can comment. Also, there is a public presentation of the study (in most cases not highly attended by the public, but often very unpleasant when attended) where again anybody concerned can express an opinion. There is a committee of three members, formed locally, that decides on the study and the concerned opinions.</p> <p>Few public consultations on reallocating planned masts were tried, and certain solutions have been found. Unfortunately later they stuck on property issues, as local communities often do not possess the land they use.</p>
<p><b>Exemptions &amp; Existing site upgrade</b></p>	<p>No exemptions.</p> <p>Upgrade of existing sites has to follow the same processes as building a new one, unless additional antennas and equipment were included in the original plan for which a permit was already obtained.</p>



## 4.25 Slovakia

<b>Exposure guidelines</b>	EU recommendation – Ref: Act No.355/2007 on the protection, promotion and development of public health and amending some laws
<b>Planning Authority</b>	Local authorities, Telecom Office, Ministry of Health, Environmental Offices
<b>Requirements for planning permission</b>	Requirements at the national level are defined by the Construction Act, Electronic Communication Act, Public and Occupational Health Protection Act, Law on Nature Protection Act.
<b>Timescales for permission</b>	Three to 12 months.
<b>Appeals process</b>	Appeals can be made to higher-level government authority.
<b>Public Consultation</b>	Not mandatory.
<b>Exemptions &amp; Existing site upgrade</b>	If a site upgrade qualifies for a “minor construction”, the process for obtaining building permit is shortened. Otherwise, there is no exemption for upgrade, and the regular construction permit process applies. In case of antenna upgrade, new power output measurement is necessary.

## 4.26 Slovenia

<b>Exposure guidelines</b>	National document: Uredba o elektromagnetnih sevanjih v naravnem in življenjskem okolju ( <a href="http://zakonodaja.gov.si/rpsi/r07/predpis_URED1387.html">http://zakonodaja.gov.si/rpsi/r07/predpis_URED1387.html</a> ) 1996 based on ICNIRP values. Limits are below those of the EU Recommendation 1999/519/EC.
<b>Planning Authority</b>	Municipality and Ministry of infrastructure and spatial planning.
<b>Requirements for planning permission</b>	Base stations shall be designed fulfilling requirements contained in the National Building Code. The relevant authority to evaluate the request is the local municipality in cases for simple object such as rooftops up to 10 m. The Ministry instead has to evaluate requests related to complex objects, such as new towers. EMF measurements shall be done for all new base stations.
<b>Timescales for permission</b>	Typically six months.
<b>Appeals process</b>	Appeals go through a standard administrative suit procedure.
<b>Public Consultation</b>	Local authorities evaluate on a case-by-case basis whether a public hearing with affected neighbours is mandatory. EMS Forum is an organization which taking care for competent, objective and impartial informing and communicating with public ( <a href="http://www.forum-ems.si/index.html">http://www.forum-ems.si/index.html</a> )
<b>Exemptions &amp; Existing site upgrade</b>	No exemptions. Existing site upgrades considered as investment maintenance. All upgrades shall comply with EMR limits.

## 4.27 Spain

<b>Exposure guidelines</b>	<p>Royal Decree 1066/2001 of 28 September, which approves the Regulation establishing conditions for the protection of public radio, radio emissions restrictions and measures of health protection against radio emissions (based ICNIRP limits).</p>
<b>Planning Authority</b>	<p>Municipality and Autonomous Community / Regional Government (Spain has 17 Autonomous Communities)</p>
<b>Requirements for planning permission</b>	<p>First: Construction License (Municipality), Activity License (Municipality or Autonomous Community / Regional Government – Spain has 17 Autonomous Communities).</p> <p>Second: Once the station is built, the Municipality checks:</p> <ul style="list-style-type: none"> <li>– That what was planned is indeed built: Occupation License</li> <li>– The activity: Functional License (regular inspection, no RF)</li> </ul> <p>Documentation: Building project certificated by an architect, Environmental impact study (does not include anything regarding radiation), deployment plans. Depends on the Municipality / Autonomous Community.</p>
<b>Timescales for permission</b>	<p>More or less three months. This depends on the ordinance; the typical period to receive approval to build a site is 18 months (if obtained).</p> <p>The worst case length of time to get approval to build a site is from two to three years.</p>
<b>Appeals process</b>	<p>First appeal can be made against the local administration (Juzgado Contencioso Administrativo) that issued the permit. In second instance the standard judicial procedure has to be followed. If it goes further, Justice Superior Court (Auto. Comuni) or Supreme Court (National). Any interested party, including neighbors has the right to lodge an appeal. Appeals typically one to three years. Eight to 10 years in extreme cases. New Doctrine of the Constitutional Court and Supreme Court jurisprudence establishing the exclusive competence of State regulation on basic health facilities and telecommunications radio. The Constitutional Court, a body of interpretation of the Spanish Constitution, by judgment on the constitutionality of a regional law (Ley de Castilla-La Mancha) regulating technical aspects of radio facilities. The Constitutional Court passes verdict on any regional/local legislation which regulates telecommunications and technical aspects of health protection other than the rules of the States are considered void. The Supreme Court (highest court), and some chambers of the Regional Superior Courts of Justices, are agreeing to cancel regional and local standards governing technical aspects of the radio installations specified following the Doctrine of the Constitutional Court.</p>
<b>Public Consultation</b>	<p>The consultation or notification is not required for all sites, depends on the ordinance / municipality. When operators apply for a license, depending on the ordinance, there may be an obligation to notify all the neighbors. Some Town Councils may not only impose public inquiry but even an individual notice to each potentially interested party. In such a case, the residents have the right to make claims, which is part of the process of obtaining license. The operator then has to prove that communication and subsequent report in the Bulletin have been carried out. The Operator and/or the Municipality undertake the consultation. Approval of new release endorsing State regulation of municipal authorizations on matters affecting the radio installations. The Spanish government, implementing structural reforms Plan submitted the European Commission, is reforming all laws applicable to the obligation to obtain authorizations from the authorities to provide services, modifying, in general, these rules liberalizing other administrative processes. A reduced procedure only requiring advance notice to the Administration to provide services, interpreting the permissions needed to install base stations, compliance with state standards of control, would be within this new scheme of advance notice.</p>

<p><b>Exemptions &amp; Existing site upgrade</b></p>	<p>In some areas, e.g. Galicia, there are simplified procedures when operators decide to install microcells.</p> <p>There are exemptions or simplified procedures for changes to existing sites, sometimes. The need to follow complete procedures depends on the level of details in the application submitted in the first place. If the initial project was well described to include possible changes in the installation, and if the change made on the existing site was considered in the initial project, then the Town Council may authorize to make the change without applying again. If any change, even small, was not planned or identified in the initial project, then there should be no exemption. If the change is major (e.g. tower replacement), full submission will be requested.</p>
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<h2>4.28 Switzerland</h2>	
<p><b>Exposure guidelines</b></p>	<p>ICNIRP reference levels are applied for protection against proven adverse health effects. They must be respected anytime at all places accessible to persons. In addition precautionary exposure limitations, so called installation limit values, must be respected at places of sensitive use, e.g. apartments, schools, hospitals, permanent workplaces, children playgrounds. These precautionary exposure limits are 10 times below ICNIRP recommendations. They refer not only to the installation of one single operator but consider also mobile transmitters in vicinity (up to 100 m distance and more, depending on the emission power) The compliance with the exposure guidelines must be guaranteed by the operator with a certified quality assurance system. In addition authorities order EMF measurements on site.</p>
<p><b>Planning Authority</b></p>	<p>Municipality</p>
<p><b>Requirements for planning permission</b></p>	<p>Each base station requires a full planning permission. Even if it is built on existing infrastructure. Compliance with national environmental regulations, spatial planning regulation and the local construction guidelines have to be met.</p>
<p><b>Timescales for permission</b></p>	<p>Typically one to two years. Worst cases are delayed up to five years.</p>
<p><b>Appeals process</b></p>	<p>Different stakeholders can appeal to the next-level court (sequence: local administration, first level of appeal, cantonal court, and national court).</p>
<p><b>Public Consultation</b></p>	<p>A public consultation is mandatory.</p>
<p><b>Exemptions &amp; Existing site upgrade</b></p>	<p>No exemptions. Upgrades have to be resubmitted to the planning authorities if the exposure around the installation changes. Compliance has to be re-confirmed. Public consultation is again mandatory and the possibility of appeals is renewed.</p>

## 4.29 Sweden

<b>Exposure guidelines</b>	National limits based on ICNIRP.
<b>Planning Authority</b>	Municipality
<b>Requirements for planning permission</b>	Each green field base station requires a full planning permission. Compliance with regulations from the Swedish Airport Navigation Service and the Swedish Armed Forces must be met.
<b>Timescales for permission</b>	Typically three months. Worst cases are delayed up to one year.
<b>Appeals process</b>	Different stakeholders can appeal to the next-level court (sequence: local government, county administration, Administrative Court, Administrative Court of Appeal and Supreme Administrative Court).
<b>Public Consultation</b>	Each municipality can decide whether to impose a consultation and to whatever extent and they wish.
<b>Exemptions &amp; Existing site upgrade</b>	No exemptions. Upgrades do not need to comply with additional requirements.

## 4.30 Turkey

<b>Exposure guidelines</b>	Turkey has adopted ICNIRP limit values for a given area, but specific limits of ¼ of ICNIRP are applied per installation.
<b>Planning Authority</b>	The Information and Communication Technologies Authority (Bilgi Teknolojileri ve İletişim Kurumu) plays the role of both the RF and planning authority.
<b>Requirements for planning permission</b>	The documentation to be submitted is called Montaj Survey. It contains all engineering plans with photograph, antenna performance, building plan, measurements. 2-D dimension field information and RF measurements
<b>Timescales for permission</b>	According to the ordinances, the Information and Communication Technologies Authority must give the certificate in one month. Typical timescale is 2 to 3 weeks now but used to be much longer.
<b>Appeals process</b>	None. There is the possibility to apply 4 or 5 times again. Hence no authority that deals with the appeal.
<b>Public Consultation</b>	There are no mandatory procedures for public consultation or notification. Only voluntary procedures.
<b>Exemptions &amp; Existing site upgrade</b>	There are no exemptions for small antennas. For picocells, microcells and macrocells, a certificate is needed. There is no simplified procedure for low power stations either. Femtocells are different – the device must be compliant. For any significant change (safety distance, additional antenna, antenna position / beam direction or higher power), a new certificate must be obtained. If the power is decreased, there is no need for application for a new certificate but only for a simple declaration.

## 4.31 United Kingdom

<b>Exposure guidelines</b>	ICNIRP exposure guidelines adopted in the UK in 2000. All base stations deployed are certified as ICNIRP compliant. Ofcom (the industry regulator) undertakes audits of base station emissions on request from the public.
<b>Planning Authority</b>	Municipalities in England, Scotland and Wales. In Northern Ireland Planning Service
<b>Requirements for planning permission</b>	Standardised planning procedures across all regions. For masts below 15m and enclosed within defined cubic limits (prior approval in England and Wales). Minor works constitute permitted development. No prior approval in Scotland or Northern Ireland. The Code of Best Practice on Mobile Phone Network Development provides advice on consultation and planning procedures in England and Wales. Scotland and Northern Ireland have their own advice documents.
<b>Timescales for permission</b>	<ul style="list-style-type: none"> <li>▪ 56 days for prior approval applications (e.g. ground based masts below 15 m and some rooftop developments in England and Wales).</li> <li>▪ Around 80-100 days for other “full planning” applications for larger developments or development in sensitive environmental areas (e.g. Conservation Areas).</li> </ul>
<b>Appeals process</b>	If a planning or Prior Approval application is refused operators can refer to the Planning Inspectorate (governmental agency). There is no third party right of appeal. In Scotland, from 3rd August 2009, those applications dealt with by a planning officer under ‘delegated powers’ are now (if the application is rejected) be appealed to a local member review body. Appeals made against a decision of a planning committee (made up of elected local councillors) will be dealt with by Scottish Ministers.
<b>Public Consultation</b>	Pre-application consultations are carried out by operators following the Code of Best Practice. A Public consultation post application submission is carried out by the Local Planning Authority and is defined in the planning regulations for that region.
<b>Exemptions &amp; Existing site upgrade</b>	Masts below 15 m can go through a simplified procedure (see above). Minor upgrades are permitted for non-sensitive areas.

# Guidelines for Network Deployment Principles

The GSM Association recognises that there is public concern about the aesthetics of siting and allegations of possible health effects of radio base stations. This public concern is in contrast to a number of independent expert reviews that have concluded that there is no convincing scientific evidence of a link between public exposure to low level radio signals generated by mobile telecommunications systems and adverse human health effects. The wireless industry acknowledges that there is a responsibility on it, with central and local government, to address community concerns about radio base stations.

## Background to the Guidelines

The main elements of these guidelines include clear information exchange with local authorities and other key stakeholders, proactive operator site sharing initiatives when feasible, environmental sensitivity considerations, and more efficient and detailed availability of data. The key health and safety aspects include operator provision of declarations of network infrastructure compliance with relevant national or international guidelines.

These guidelines are consistent with voluntary commitments made by GSM Association members in Australia, the UK, and other countries and with the GSMA Europe 'best practice' recommendation on network rollout adopted in late 2001.

## The GSM Association Guidelines

- The GSM Association (GSMA) and its members welcome continuing independent, high quality and objective research and are currently supporting research recommended by the World Health Organisation to address scientific uncertainties. On-going research will ensure that policy can be based on substantiated scientific evidence and will provide the basis for on-going review of exposure guidelines.
- The GSMA believes that all existing and new radio base stations should be designed to comply with relevant national radiofrequency exposure guidelines. The GSMA supports national exposure guidelines that are based on sound scientific evidence and are subject to on-going expert review. We encourage international harmonisation of standards. The GSMA opposes the imposition of local unscientific restrictions on siting that discriminate against mobile communications.
- GSMA members should consider the appropriate form for a declaration of compliance with radiofrequency exposure guidelines. This would support openness and improve the confidence of local communities in the compliant operation of base stations.
- The GSMA believes that the provision of technological information to regulatory and planning authorities is an effective means of raising awareness and understanding of the deployment issues confronting members.
- Improved dialogue with local authorities and other key regulatory stakeholders will increase understanding of network infrastructure development requirements and the impacts of local planning frameworks. The consultation process should take into account planning, environmental and community issues.
- The GSMA's members should consider whether communication with regulatory and planning authorities could be improved through the use of clear and consistent supporting documentation.
- Site sharing with other radio installations or existing structures, where technically feasible and in line with competition law and licensing conditions, should be factored into decisions on the most environmentally appropriate radio base station solution.
- Appropriate siting and design that reduces the visual profile of antennas can help allay public concerns. The GSMA recognises that, where reasonable and practical, measures can be taken to minimise the environmental impact of radio base station developments.
- The GSMA supports clear processes to respond to enquiries about radio base stations and that the information provided to the public needs to be of a high standard.

# Glossary

Acronym	Description
<b>3G</b>	Third Generation Mobile Telecommunications.
<b>4G</b>	Fourth Generation Mobile Telecommunications.
<b>Base Station</b>	Radio transmitter and receiver used for transmitting and receiving voice and data to and from mobile phones in a particular cell. Mobile networks consist of interconnected base station sites serving areas called cells, giving rise to the terms cellular communications and cellphone. Each antenna site or base station consists of a mast or existing building to support the antennas and associated transmission and network equipment. The radio signals are transmitted by the antennas and not by the supporting structures. The number of frequencies available for use by mobile networks is small compared to the number of subscribers so the same frequencies have to be re-used. To avoid interference, base stations using the same frequency must transmit at low power and be separated by distance.
<b>EMF</b>	Electromagnetic field. Electromagnetic waves are emitted by many natural and man-made sources and play a very important part in our lives. Electromagnetic waves are used to transmit and receive signals from mobiles phones and their base stations. The type of electromagnetic waves mobile phones use is called radio frequency (RF) waves/fields.
<b>LTE</b>	Long Term Evolution, "fourth generation" standard for wireless communications technology.
<b>ICNIRP</b>	International Commission on Non-Ionizing Radiation Protection
<b>Mast</b>	A ground-based structure that supports antennas at a height where they can satisfactorily send and receive radio waves. A typical mast is 15m high, and of steel lattice or tubular steel construction. New slimmer versions of masts are now available which can be painted to blend in with their surroundings, disguised as trees or used in conjunction with street lighting and CCTV cameras. Masts themselves play no part in the transmission of the radio waves.
<b>Microcell</b>	Microcells provide additional coverage and capacity where there are high numbers of users within urban and suburban macrocells. The antennas for microcells are mounted at street level, typically on the external walls of existing structures, lamp-posts and other street furniture. Microcell antennas are smaller than macrocell antennas and when mounted on existing structures can often be disguised as building features. Microcells provide radio coverage over distances, typically between 300m and 1000m and have lower output powers compared to macrocells, usually a few watts.
<b>Picocell</b>	A picocell provides more localised coverage than a microcell. These are normally found inside buildings where coverage is poor or where there are a high number of users such as airport terminals, train stations or shopping centres.
<b>UMTS</b>	Third generation mobile cellular technology.
<b>GSM</b>	Global System for Mobile Communications, second generation standard for networks.



Europe

### **About the GSMA**

The GSMA represents the interests of mobile operators worldwide. Spanning 219 countries, the GSMA unites nearly 800 of the world's mobile operators, as well as more than 200 companies in the broader mobile ecosystem, including handset makers, software companies, equipment providers, Internet companies, and media and entertainment organisations. The GSMA also produces industry-leading events such as the Mobile World Congress and Mobile Asia Congress.

In the European Union the GSMA represents over 100 operators providing more than 600 million subscriber connections across the region.

For more information please visit the GSMA Europe website at

[www.gsmworld.com/gsma\\_europe](http://www.gsmworld.com/gsma_europe)

or visit the GSMA corporate website at

[www.gsma.com](http://www.gsma.com)