

# Public consultation on secondary trading of rights to use radio spectrum

## Your details

Name: Tom Lindström

Sector: Telecom manufacturer

Organisation/Company: Ericsson (Telefonaktiebolaget L.M. Ericsson)

## General questions

### 1) Do you consider secondary trading of rights to use radio spectrum to be beneficial to consumers, businesses and radio users? why/why not?

Yes, we do believe that Spectrum Trading will be beneficial to consumers, businesses & radio users, providing that it is implemented carefully and effectively. It will allow economical actors increased flexibility in acquiring spectrum resources to satisfy market and consumer needs. It will also stimulate technological evolution by offering new opportunities to market players, with a potential benefit for the competitiveness of the industry and for the consumers. However, regulators will need to satisfy themselves that third parties are not harmed.

We stress that some spectrum has been internationally harmonised with respect to its use and interference criteria. Spectrum Trading must not alter this harmonization without international agreement. Spectrum Trading should be of great benefit to organisations that cannot currently obtain spectrum to provide or sustain valuable services to end-users. Spectrum trading is within this response to Question 1 considered as the trading of rights without change of use. Change of use is covered in our response to Question 6.

Trading will require greater vigilance against hoarding. There is also a risk of price volatility that would be detrimental if measures are not taken.

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### 2) What types of transfer of rights to use radio spectrum (full, leasing, partial etc.) do you consider can be beneficial to consumers, businesses and radio users? why/why not?

In our view spectrum leases, temporary hires as well as outright sales should be possible. Regulations should allow the market to decide the economic mode chosen for a trade while preventing any abuse of dominant position or

speculative hoarding. Spectrum trading should be seen as right, and not as an obligation.

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**3) What rights and associated obligations do you consider should be within the scope of secondary trading of rights to use radio spectrum?**

As it is the case in a number of EU countries, there should be separate authorisations for provision of telecom services and licences for use of radio spectrum. As far as the radio spectrum licences are concerned, the actual defined rights and obligations are associated with a formal issued licence, the whole defining a 'spectrum asset'. The details can differ from one application and/or band to another. Apart from any roll-out obligations or ones associated with duration of license tenure, the main obligations relate to limitations on transmitted power or equivalent isotropically radiated power and a spectrum mask. Correctly constructed interface regulations will be an essential part of the spectrum asset definition. Clearly, all implicit and explicit obligations stand to be passed on and the purchaser of the spectrum asset is responsible for managing interference issues and for adhering to such obligations.

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**4) Would you want to see secondary trading of rights to use radio spectrum introduced in your country or in the countries of interest to you?**

a) If yes – why, to what extent? when? frequency bands/services?

Yes, we would like to see secondary trading introduced into the EU. The timetable for its introduction and the regulatory measures controlling it should however be subject to common principles and juridical definitions to the greatest extent possible.

The use of simple basic guidelines would have the additional beneficial effect to ensure a faster and more successful adoption of the new principles, also in light of the upcoming enlargement of the European Union. These principles should not force Member States to introduce spectrum trading nor allow blocking of the introduction of spectrum trading in other Member States.

b) If no – why not, are there other tools that better suit your needs?

Not applicable

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**5) What information and electronic communication facilities should be made available to facilitate implementation of secondary trading of rights to use radio spectrum?**

We would welcome plans for recording pricing and ownership details. Ideally the technical data made available to prospective buyers of spectrum would be as comprehensive as that suggested for inclusion in the draft revision of ITU Rec 1413, Radiocommunications Data Dictionary for notification and coordination purposes. Such a data base should be available to all parties with an interest in spectrum engineering or trading and should be accurately maintained with updates on a regular basis.

There should be a mechanism for a potential buyer to contact a spectrum owner to find out whether they are willing to trade. There should also be a mechanism for potential sellers to advertise the availability of their spectrum. The business plans of companies should not be revealed through any publicly available information.

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**Scope of trading – change of use, reconfiguration**

**6) Is the possibility to reconfigure rights important? If yes, what kinds of reconfiguration do you consider would benefit consumers, businesses and users of spectrum? (geography, frequency, time, other)**

Yes, reconfiguration in the meaning of aggregating and disaggregating licenses or parts thereof could be an important tool for market actors to optimize their spectrum holding to be better able to serve the consumer needs of their markets. Such reconfiguration should be permitted when the resulting spectrum configuration is consistent with international harmonization. of e.g. spectrum use, technology, interference protection and modulation schemes.

Reconfiguration in the meaning of change of use, e.g. a change from terrestrial to satellite, fixed to mobile, change of modulation scheme, etc should be considered with some more caution when some experience with trading has been gained.

Spectrum reconfiguration must not result in band fragmentation, which would reduce benefits in markets that are successful and popular with end-users precisely because harmonisation has allowed economies of scale to act.

We acknowledge that in some bands unconstrained liberalisation is inadvisable. This statement can apply across harmonised and also non-harmonised bands. We strongly believe that *the market* should drive/determine how spectrum should be used. Consequently, we would recommend that spectrum trading is over time introduced for all bands that are not licence exempt.

We note that under the EU Framework Directive, spectrum trading may not result in a change of use of spectrum that has been harmonized under Community measures.

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**7) Is the possibility to use the spectrum in a flexible way important? If yes, what kinds of flexibility do you consider would benefit consumers, business and users of spectrum (service, technical constraints, other)**

Liberalisation of spectrum use should be implemented through issuing consultations related to specific bands or services. Upon their outcome, guidance could be issued, if necessary. A precise definition of licence terms is not seen as necessary as such. For our view on flexibility in the sense of reconfiguration please see Question 6.

Any secondary spectrum trading scheme and/or policy must however take into account applicable regional and global regulatory harmonisation activities to create the necessary environment for economies of scale for viable commercial business operations.

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**8) To what extent is the tenure an important issue in assessing secondary trading? (indefinite, rolling, fixed, annual, other)**

Depending on how the license was acquired different tenure may be applicable. Licenses subject to some form of incentive pricing should have a rolling term to allow adjustment of this price.

Licenses acquired at market cost, e.g. at auction, should preferably have indefinite terms, or a license renewal presumption. Licensees must be able to construct a viable business case for developing the service he intends to offer. This must take account of the security of tenure of the spectrum. If the planned use involves a small investment, a short-term security of tenure may be acceptable. At the other extreme, a commercial operator building a cellular network is involved in a large capital expenditure where the business case will only provide a return on investment over a long period. Such investments will only be made given a long-term security of tenure.

Similar considerations apply to equipment manufacturers. Where development time scales are long and costs are high, which is the case for e.g. public wireless systems, manufacturers are less likely to develop equipment for markets that have only a short or uncertain lifetime. This will lead to reduced innovation and choice for the customer. This is also a strong reason to retain harmonized use of spectrum, where there is demand.

With respect to termination notice period we would emphasise that we understand that any such termination would occur only in *a very exceptional*

*situation.* There is a need for a clear notice period, however not just 'one size fits all'. It is vital to take into account the lifetime/amortisation period of the affected equipment. We believe that 20 years minimum use for termination without compensation should be the norm, with a minimum 5 years notice outside of this rule.

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**9) Should the same rules and regulations apply for the whole of the spectrum?**

**a) Is there a need for different rules and regulations for different frequency bands? geographical areas? services? users?**

The basic principles that underlie the rules and regulations should be the same for the whole of the spectrum. It is likely that the actual rules and regulations will need to be somewhat different for certain frequency bands, however.

**b) If you see a need for different rules and regulations in question 8a above, please give examples**

One example of a reason for this is Fixed Microwave Link Licences, where the trading of the licence for an existing operational link is clearly a much simpler matter to regulate than a licence for a PTMP/Point-to-Multi-Point Wireless Transmitting device. Rules and regulations might also differ somewhat between spectrum in congested areas and rural areas where there are relatively few wireless deployments in certain categories.

We believe that trading of spectrum that is currently allocated but unused should be promoted. An example of this situation is provided by some allocations of military spectrum. In this particular case, a policy of hybrid applications (public-private) could be developed, thus making possible and encouraging the trading of that spectrum as well.

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**Competition aspects**

**10) Should there be specific competition rules in relation to implementing secondary trading of rights to use radio spectrum, or is general competition law enough?**

Specific competition *rules* (though not necessarily new or changed laws) are likely to be required here. Such rules based on existing competition laws, on national and EU level together with existing merger regulations should be sufficient.

As an example, the competition between what are today different market sectors that may converge when services and technologies evolve must be monitored. A

level playing field must be assured between sectors that have paid for its spectrum at auction and sectors that have been provided with spectrum without payment. Relevant authorities should also ensure that access to spectrum is not distorted by the abuse of particular market positions, or by speculators.

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## **The role of the spectrum management authority**

### **11) What do you see as the main responsibilities for a spectrum management authority in regards to secondary trading of rights to use radio spectrum?**

The main responsibilities of a spectrum management authority are to put in place arrangements that can achieve the following major objectives.

The single overriding goal by which a Spectrum Trading Project should be judged is the degree to which it succeeds in achieving the maximum effective use of spectrum for the social and economic benefit of society as identified in economic impact studies.

It is through its use that spectrum provides the greatest benefit to society. All measures therefore need to be towards maximising the quantity and effectiveness of users and services.

Whilst some applications require a great deal of flexibility to maximize the benefit from spectrum, this should not be taken to encourage undue fragmentation. Many other applications achieve higher benefit through harmonisation of bands and standardisation.

Interference always reduces the available capacity of any band even though technology is employed to make such interference less visible to users. Therefore measures must be included that address interference problems.

Facilities to identify under-utilised spectrum need to be provided. It is from such bands that opportunities for improvement in spectrum efficiency through spectrum trading will principally come. Therefore such bands are prime targets for first adoption of spectrum trading.

We expect the biggest benefit to come from the initial introduction of the new Spectrum Trading policy within each band. In order for the advantages of Spectrum Trading to be realised, it cannot be assumed that the necessary equipment to implement the systems involved in a change of use is immediately available. Manufacturers may require time and significant investment in order to develop the new systems needed in response to the results of the trade.

The main responsibilities implied for the Spectrum Management Authorities by these objectives are:

- Accurately defining the 'tradable spectrum assets'
- Publicise the availability of 'tradable spectrum assets' that are to be released or re-released to the marketplace by the Spectrum Management Authority.
- Pricing 'tradable spectrum assets' which are in the latter category and releasing them onto the market in an orderly manner which has a minimal disruptive effect on the market conditions
- Preserving the utility of the 'tradable spectrum assets' by very rapidly and effectively undertaking disputes-resolution
- Detecting and then applying controls against anti-competitive behaviours
- Enhancing the utility of the 'tradable spectrum assets' by publicising very effectively the plans for harmonised spectrum use as they are agreed in relevant international fora
- Publicising and then following transparently the processes designed for the 'approval of trades'
- Monitoring the national spectrum asset marketplaces and ensuring that key public and non-public information about them is a) extracted, b) logged, c) made available in a timely manner (where appropriate).

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**12) To what extent is spectrum management authority approval of trades a benefit or an impediment to the development of a market for secondary trading of rights to use radio spectrum? Under what circumstances do you consider it would be necessary for a spectrum management authority to refuse a trade?**

The approval of trades must not be an impediment to the development of this new market. If ex-post unwinding of trades is prohibited by law (as in some countries) this places a significant challenge on the spectrum management authority to approve trades rapidly, to a predictable timeframe and in advance of closure of the commercial deal. This will however be made more achievable if the onus for assuring a non-interfering use of the spectrum is placed with the purchaser and not with the spectrum management authority. We see this mode of working/division of responsibilities as an essential accompaniment to an effective functioning of the spectrum management authority. To further clarify this point, we see the spectrum management authority as having full responsibility for defining the spectrum right/asset and associated obligations, while the purchaser of the asset must assume full technical and legal responsibility for not infringing on other bands..

Monopolistic grounds for preventing acquisition of spectrum will need to be published in advance, also the possible triggering of any anti-competitive safeguards will obviously need to occur early on in the 'approval of trades' process.

The spectrum management authority will primarily need to intervene to support policy objectives such as the provision of public services. It will also need to consider to what extent it should attempt to predict whether a trade could cause a reduction in consumer surplus, or investment confidence and hence when it would intervene in the market place. Competition in the terminal market could also be harmed by band fragmentation. End-users may also have invested in terminals which may become redundant after trade.

Other factors in the trading environment are really more general political views of how a market should function, e.g. whether the regulator will need to be convinced that the net economic benefit of the use of the spectrum is enhanced by the trade, and that no third party is significantly harmed, or whether a highly deregulated market approach will be adopted with intervention only where the market is seen to be failing to ensure the most efficient and effective use of the spectrum.

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**13) What specific measures could a spectrum management authority take to handle the issues if secondary trading is introduced? (ex ante approval procedures, ex post notification, competition aspects, limit change of use, interference aspects, other)** For straightforward trades, ex-post notification (with no approval stage) should suffice. Some 'back office' aspects of market notification can be carried out ex post, as is normal in any market.

Change of use limitations and interference protection aspects should be able to be dealt with as part of the spectrum asset description/definitions.

Competition aspects are always an appropriate measure.

Service providers should be obliged, prior to a spectrum trade taking place, to notify the National Regulatory Authority (NRA). The effects to third parties, foremost consumers but also manufacturers and other spectrum users, should be considered. However, the answer of the NRA to the notification should not be considered as a pre-requisite for the service providers to launch their services.

Both Ex ante and ex post procedures may thus be appropriate. For many trades with limited geographic coverage or no public policy issues ex-post procedures would seem more practical, for trades involving high value major public networks or important issues of public policy some ex-ante procedures could be appropriate.

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**14) To what extent should the national spectrum management authority actively facilitate secondary trading of rights to use radio spectrum?**

Answering on the basis that ‘secondary trading’ is what happens *after* spectrum has been fed into the market from whatever source, the main role of the national spectrum management authority is to protect against monopolistic positions arising, whether intentionally or accidentally. Note that there should be no differentiation in the authority’s actions between the latter two possibilities.

Once tradable assets are out in the marketplace, the authority should also ensure that disputes are resolved rapidly, effectively and in an expert and consistent manner. Such disputes will be primarily technically based and will often involve interactions with experts not employed by the management authority. Appropriate rules and measures should be ready, and the dispute resolution mechanism in place before the first trade is performed.

Financial details of trades must be recorded by the spectrum management authority and reported to the spectrum marketplace in order to preserve transparency in the marketplace and to facilitate it. It must however be decided whether the identities of those who exchange i.e. trade spectrum should be made public or not.

Sufficient information must be available to allow analysis of how spectrum blocks are owned and what their current licensed use is. It is necessary to know which blocks are owned by e.g. company “A” but perhaps it is not necessary for the name of company “A” to be in the public domain. In some cases the purchaser, or seller, may have sound business reasons for wanting to keep the trade confidential in order to obtain competitive advantage in the marketplace. This should not be discouraged and will in any case be subject to normal competition law. Intermediaries may emerge but will still need to be able to deal with owners who wish to remain anonymous.

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**Community aspects**

**15) Do you consider that adoption of individual regimes by EU member states will cause problems for consumers, businesses and radio users? If yes, in what ways and to what extent?**

No, the adoption of individual regimes (compared to EU-wide Regulation) is not expected to be a problem as long as differences in the regimes adopted are avoided. As mentioned in our response to Question 4, the regulatory measures controlling spectrum trading should be subject to common principles and juridical definitions to the greatest extent possible.

We also stress once more that spectrum trading is to be seen as a right granted to licensees and not as an obligation. In line with the Framework Directive

Member States should have the right to, but not be forced to, introduce spectrum trading. They should also not be allowed to block the introduction of spectrum trading in other Member States.

Conversely, Member States should be encouraged to verify the interest of the respective markets with appropriate consultations.

At the same time, it would be useful if the EU defined “Spectrum Trading”, “change of use”, “liberalization of spectrum use” and “Technology Neutrality” in a precise and non-equivocal manner, for the benefit and reference of all Member States.

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**16) Do you consider that the EU should take measures to facilitate the implementation of secondary trading of rights to use radio spectrum? If so, in what areas and to what extent?**

The EU could facilitate the implementation of secondary trading through appropriate guidelines, as mentioned above.

Some ad-hoc events would also be welcome to verify the level of acceptance of the new principles from the market.

Moreover, the EU should ensure that relevant EU law is sufficiently comprehensive and flexible to support a dynamic new market in spectrum.

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**17) To what extent is European harmonisation of frequencies an important issue in regards to secondary trading of rights to use radio spectrum?**

Very important, as spectrum trading can help in a better exploitation of some under-utilized harmonized bands. Please also refer to our answer to Q1.

The EU should regularly review its positions on ‘internationally harmonised frequencies’ in the light of upcoming needs for more harmonisation where required and also less harmonisation where it is no longer warranted.

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**Related experiences and examples of secondary trading**

**18) What are your experiences with the current spectrum management regimes?**

We believe that the processes adopted and administration cultures within current regimes have tended to produce artificial shortages of spectrum. These shortages are apparent in respect of known uses for frequencies and would also occur for not-yet-perceived uses.

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**19) What are your experiences of secondary trading of rights to use radio spectrum?**

None.

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**20) Please describe specific scenarios in which you consider that the introduction of secondary trading of rights to use radio spectrum would be beneficial**

We believe in particular that new 'sources' of useful spectrum will emerge quite rapidly, some of which should be highly beneficial to the deployment of newly emerging radio communications technologies and new services.

**21) Any other comments**

None.