

## **Ericsson response to the "Stakeholder consultation on adaptation to scientific and technical progress under directive 95/2002/EC for the purpose of a possible amendment of the Annex."**

Dear Madam/Sir,

Ericsson has for a long time been examining alternative soldering processes for migration to lead free telecommunications network equipment. A prerequisite has been to retain the high reliability required for such equipment. Based on our experiences we would like to share some concerns related to Question 3 of the public consultation paper "Stakeholder consultation on adaptation to scientific and technical progress under directive 95/2002/EC for the purpose of a possible amendment of the Annex".

For further questions please do not hesitate to contact:

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### **3. Lead in solders for servers, storage and array systems, network infrastructure equipment for switching, signalling, transmission as well as network management for telecommunications (with a view to setting a specific time limit for this exemption).**

#### **Do feasible substitutes exist in an industrial and/or commercial scale?**

Although lead free soldering processes are available, their feasibility for network infrastructure applications is not yet sufficiently established.

#### **Do any restrictions apply to such substitutes?**

We have no comments to this point.

#### **What are the costs and benefits and advantages and disadvantages of such substitutes?**

Telecommunications networks are subject to very high reliability requirements and long lifetime expectancy. The feasibility of new soldering processes must be evaluated taking into account:

- There are a number of phenomena, e.g., increased risk for whiskers and voiding, related to new soldering techniques that need further research.
- The often large circuit boards used for network infrastructure contain a mix of high mass and low mass components. The higher temperature needed for lead free soldering may damage heat sensitive components and boards.
- Introducing new technical solutions require extensive testing not only on the individual circuit board itself but also of the whole system, into which it is introduced, to ensure that there is no degradation of quality of service. A sufficiently long migration time is therefore needed between the general availability of components and processes for lead free soldering and their use in telecommunications network infrastructure equipment.

Telecom network infrastructure equipment and servers often show similarities. Certain equipment could be defined as telecom network infrastructure equipment or as servers without any change to the hardware. Therefore the same exemption date should apply.