

SATELLITE FSS IN C-BAND IN THE WORLD & IN EUROPE ESOA VIEWS

It is notable that one of the objectives in identifying bands for systems beyond IMT-2000 is that *“that frequency bands should be identified globally to the greatest extent possible in order to facilitate the global roaming and reduction of equipment-cost through economies of scale”* (source: CEPT brief. The words “to the greatest extent possible” are a recent addition, as it has become apparent that a truly global identification will not be possible). Almost all countries of the world have C-band earth stations, and many parts of the world make greater use of C-band than Europe – see Figure 1.

Hence the constraints on IMT networks from FSS earth stations are likely to be even more significant in other parts of the world. It is presumably for this reason that some countries, including Brazil, Chile, Guatemala, Uruguay, Argentina, Colombia, Indonesia, Thailand, Malaysia, Vietnam, Iran, and the Arab countries, have taken positions against the identification of this band for IMT.

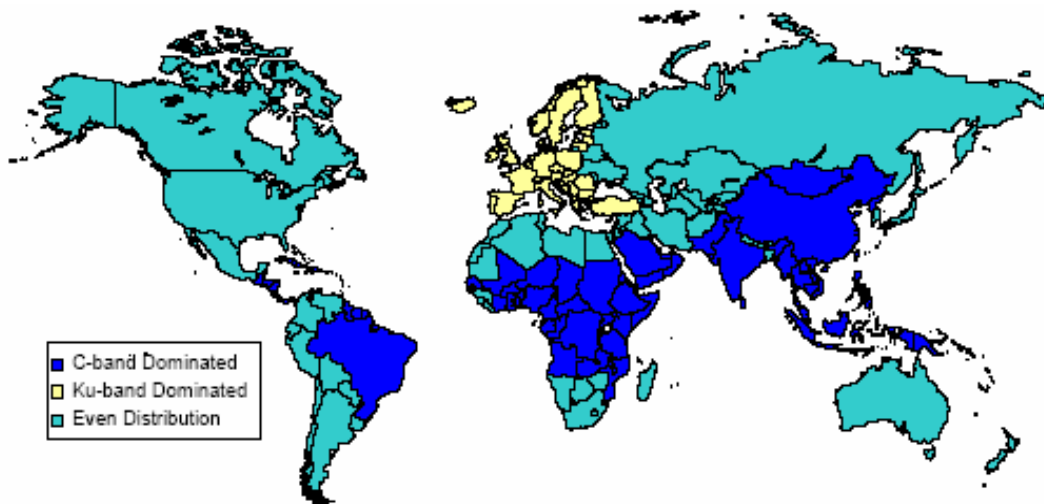
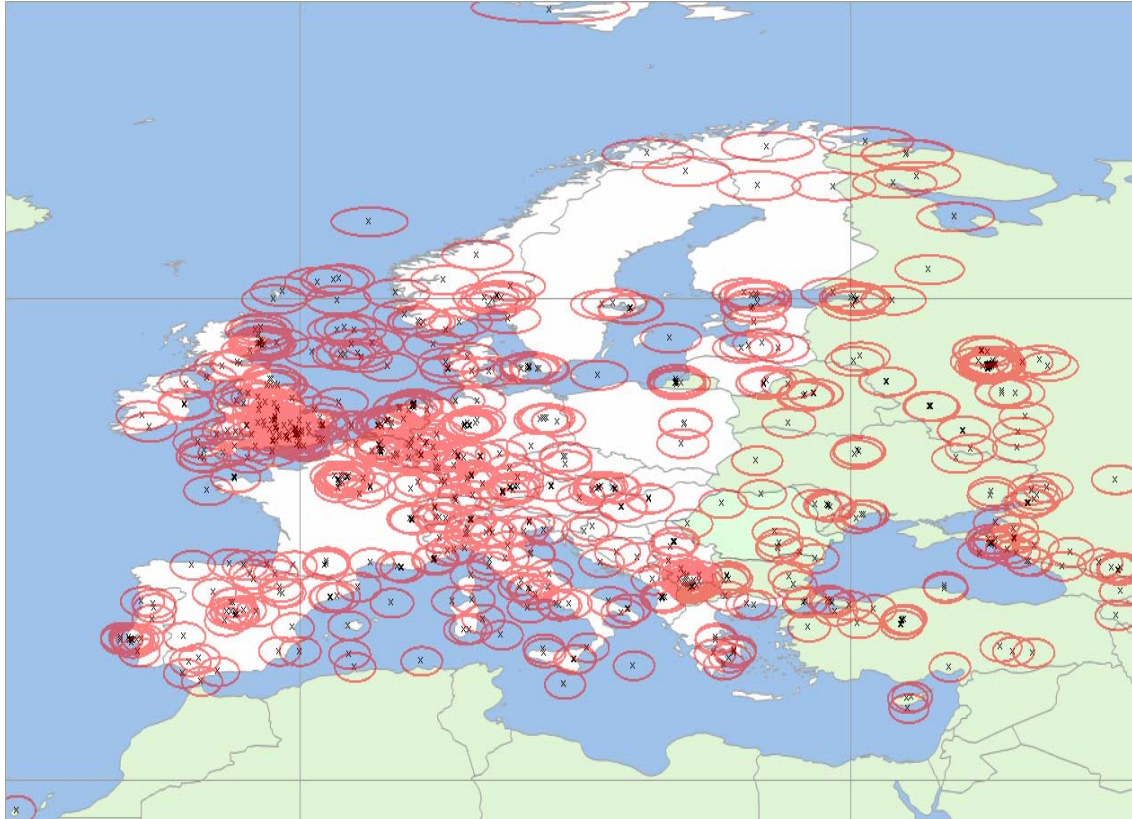


Figure 1 – Global FSS usage
(Source : Futron – 2003)



**Figure 2 Locations of FSS C-band Earth Station, excluding TVROs
(data as available 6 Nov 2006)**

With reference to Figure 2, it is apparent that large geographic areas fall within the red circles where IMT operation will be impossible or will be severely constrained. These zones include areas of high population densities (e.g. London, Paris, Berlin). In some countries, for example the UK, Germany, Italy and Spain, there is relatively little free area and most of the country is within the red circles. If the band 3.4-3.8 GHz were to be designated for IMT systems, large and important geographic areas of Europe would not be usable for IMT deployment.

Furthermore, if new IMT systems were to be deployed in the areas outside the circles, this would limit the possibilities for new FSS earth stations in Europe, since coordination of a new earth station with a deployed IMT network would most likely be impossible. This would severely constrain the ability of the FSS to deploy new earth stations, leading to an effective freeze on the current deployment. Finally, it is emphasised that C-band TVROs undoubtedly exist in areas outside the red circles, and more may be deployed in the future, and these would be vulnerable to interference from IMT stations.

The current 2G and 3G mobile networks are characterised by their wide geographic availability. Indeed, it has been a requirement for operators to ensure that their services are available to large percentages of the population (80% population coverage in the case of UK 3G licences). In most European countries, such levels of coverage in both geographic terms and in population terms would not be possible in the band 3.4-4.2 GHz. Furthermore, if new mobile networks were to be deployed in the *green* areas, this would limit the possibilities for new FSS earth stations in Europe, since coordination of a new earth station with a high density mobile network would most likely be impossible.