Mr Johan Vanderstegen

Additional comments:

Question 1: How much do you expect UK mobile data demand to change in the period 2015-2030? Please provide evidence for the trend and, where possible, please indicate how demand might vary across the device categories listed in paragraph 4.7. How should we account for factors (including pricing) that would constrain demand?:

50% more and more grand public product Tv sets will be able to be connected to www, see eg. integrated Skype possibility and m2m & b2b apllications

Question 2: What evidence do you think is relevant to assessing the extent of consumer benefits associated with meeting the increase in demand for mobile data?:

economic evidence naturally, see payment and electronic wallet applications on smart phones etc
see provision Neelie kroes and the digital agenda EU

Question 3: What proportion of mobile data traffic do you expect to be carried over (a) Wi-Fi and similar systems in licence-exempt spectrum and (b) mobile networks in licensed spectrum? How do you expect this to change over the period 2015-2030 and how do you expect total data demand for Wi-Fi and similar systems in licence-exempt spectrum to change over the same period? How might this vary by location, environment etc.?:

In both licensed and exempt it will increase significant in city environments new technologies will be needed on base of , rural open area's would best be covered on 4G (5G) basis networks or with community sponsored networks, witch provide access even for the poor

Question 4: What factors will act to change the spectral efficiency of mobile technologies in the future? What spectral efficiency values are appropriate for consideration in our study for the period 2015-2030?:

intelligent antenna systems, witch prevent interference, in certain applications QoS would better be taken into account and for voice/video better voice coding systems should be implied to manufacturers , see eg. nexedge

Question 5: What service bit rate values are appropriate for consideration in our study for the period 2015-2030? What evidence do you have of changing needs for service bit rates?:

220Mbs should be a minimum, more and more HD applications (3D) will be ou there in the future wairing for customers eg UAV during incidents etc

Question 6: What proportion of traffic do you consider should be assumed to be carried on each cell types for the period 2015-2030? How will this vary with service environment i.e. between home, office, public areas, rural, suburban and urban? What evidence do you have of the factors affecting the uptake of small cells in licensed spectrum in the future?:

Question 7: Given the current mix of services on cellular networks what is the ratio of downlink to uplink capacity currently dimensioned for and how would you expect this to change over time by 2015, 2020, 2025 and 2030? How do you expect the ratio of downlink to uplink demand to vary for the service categories given in Table A5.4 of Annex 5, and what factors might affect this? How does this ratio of downlink to uplink capacity change (if at all) with network radio access technology and offload to licence-exempt systems?:

Question 8: What are your views about the pros and cons of the frequency ranges in Table A6.1 in Annex 6 for mobile broadband and for existing applications using this spectrum? Do you have views on other bands that are not in Table A6.1?:

Question 9: Are there any other bands that are not in Table A6.1 for which you think we should be considering their pros and cons for mobile broadband and for existing applications using this spectrum? :

Former police and fire services in VHF can be given to 6.25kHz applications base first

Question 10: What are your views on bands which should be a priority for consideration for mobile broadband?:

Tv white space, due to propagation and tv applications (program making and moving to data platform, see Neul cognitive product range eg.