INTRODUCTION
SMOS operates in the protected band 1,400 - 1,427 MHz where ALL active emissions are prohibited (ITU-RR 5.340). Nevertheless, Radio Frequency Interference (RFI) is observed worldwide. Although most (but not all) of the RFI are coming from land areas, their effects are also clearly observed over the ocean, due to the spread of the RFI signal side-lobe levels into the images.

RESULTS
More than 200 RFI have successfully been switched off thanks to the cooperation with the national spectrum management authorities. Several areas in the world, especially in Europe and North America have clearly improved their situation. Below are some results showing the images early in the SMOS mission and today.

THREATS
Some situations are compromising the use of passive remote sensing missions:
• A single RFI can blind SMOS images for large areas and for a long period of time. This occurred in Poland for the second half of 2012.
• Deployment of new communication systems can endanger an entire country. The example of Japan warns us against what can happen in the future elsewhere.

CONCLUSION & WAY FORWARD
• RFI is one of the main problems for the SMOS mission.
• The strategy put into place by the SMOS team has contributed to an improvement of the RFI scenario for certain areas of the world.
• In the near future, the SMOS Operations team will be supporting the RFI monitoring activities, using new software particularly developed for the SMOS RFI.
• This will increase the SMOS team response for the detection and continuous monitoring of the evolution of RFI worldwide.