SHORT TERM SCIENTIFIC MISSION (STSM)
SCIENTIFIC REPORT

This report is submitted for approval by the STSM applicant to the STSM coordinator

Action number: CA15127
STSM title: Quality-driven creation of alert over FSO network under weather-based disruption
STSM start and end date: 14/04/2019 to 18/04/2019
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PURPOSE OF THE STSM:

The main aim of the STSM was to discuss and improve the actual content of the chapter as well as agree upon the next steps and some approaches to be described in the chapter on a face-to-face basis. Besides the coordination issues, this STSM was supposed to bring a new scientific knowledge in the context of quality-driven alert creation for FSO network under weather-based disruption. In particular, I was supposed to work together with the colleagues from the KTU and TU Graz on a conceptual model for alert creation, an objective assessment of QoE in the face of bad weather conditions, and an identification of service degradation in terms of key performance indicators. Moreover, a correlation between QoS, QoE and QoR was also supposed to be investigated.

This STSM is related to the WG2 of the COST RECODIS.

DESCRIPTION OF WORK CARRIED OUT DURING THE STSM

The STSM was implemented at the KTU (Kaunas, Lithuania) and Dr. Rasa Bruzgiene has served as a host in this context.

A plenty of editing sessions were held in order to discuss, edit and improve the actual content of the chapter. Moreover, besides the editing sessions, we have also run a couple of scientifically oriented sessions dedicated to a development of the quality-driven alert procedure for FSO network under weather-based disruption. To be more precise, I have worked together with the colleagues from the KTU and TU Graz (Austria) on the conceptual model for alert creation in the face of bad weather conditions. Moreover, it is worth noting here that the objective QoE assessment technique in the face of bad weather conditions was developed and the identification of service degradation in terms of key performance indicators was also investigated within these sessions. Finally, interrelations between the QoS, QoE and QoR were also discussed and investigated within a design phase of the quality-driven alert procedure.

DESCRIPTION OF THE MAIN RESULTS OBTAINED

As a result of the editing sessions realized during the STSM, we have rapidly improved a quality of the chapter. A new version of the chapter can be found under: https://www.overleaf.com/15402497tgwqvycqbmcw .

When it comes to the scientifically oriented sessions dedicated to the development of the quality-driven alert procedure for FSO network under weather-based disruption, I have designed together with the colleagues from the KTU and TU Graz the conceptual model for alert creation in the face of bad weather conditions. In

this context, we have focused on one of the most serious degradation factors in the context of the FSO communication systems, i.e. fog. It is worth noting here that we have also developed the objective QoE assessment technique in the face of bad weather conditions, being a part of the proposed quality-driven alert procedure. Finally, the found interrelations between the QoS, QoE and QoR as well as the identified service degradations in terms of key performance indicators were deployed in the development of the proposed quality-driven alert procedure. It should be noted here that the quality-driven alert procedure was successfully implemented into our chapter, see sub-chapter 4.1 for more detail.

FUTURE COLLABORATIONS (if applicable)

It was agreed during this STSM that we will keep this collaboration, i.e. the collaboration between the UNIZA, KTU and TU Graz, in the future, even after finishing the chapter writing, as all the involved parties have found it very beneficial. An exact focus of the further collaboration is going to be specified later on an ad-hoc basis.