The ARISTOTLE Consortium was awarded the tender and the project effectively started on February 1st, 2016, for a duration of 2 years. ARISTOTLE (aristotle.ingv.it) is a multi-hazard partnership created by combining expertise from of total of 5 hazard groups [4 main hazard groups plus a sub-hazard - Severe Weather, Floods, Volcanos (only for ashes and gases hazard deriving from eruptions), Earthquakes and the related Tsunamis as a sub-hazard given its peculiarities and potential huge impact]. Each Hazard Group brings...
together experts from the particular hazard domain to deliver a ‘collective analysis’ which is then fed into the partnership multi-hazard discussions. The hazards are very different and have very diverse timelines for phenomenological occurrence (Figure 1).

The ARISTOTLE consortium includes 15 partner institutions (11 from EU Countries; 2 from non-EU countries and 2 European organizations) operating in the Meteorological and Geophysical domains. The project coordination is shared among INGV and ZAMG for the geophysical and meteorological communities, respectively.

Primary target of the tender project is the prototyping and the implementation of a scalable system (in terms of number of partners and hazards) capable of providing to ERCC the “desiderata” above. To this end, the activities of the project have been focusing on the establishment of a multi-hazard operational board (MHOB) that is assigned the 24*7 operational duty regulated by a “Standard Operating Protocol” (SOP; Figure 2). There have been envisaged three modes of operation – Emergency, Routine and Exercise. The Emergency mode can be either reactive or pro-active. In the former case, the MHOB “reacts” to the ERCC request for information, whereas in the pro-active mode, ARISTOTLE indicates to the ERCC potential threats deriving from incoming forecastable events. Routine operation involves weekly meeting of the MHOB and a Situation Awareness weekly report that summarises the current global assessment of hazard. Finally, the Exercise mode has been envisaged to test regularly through periodic exercises the whole system.

The ARISTOTLE system requires the availability of scientific information regarding the developing hazard situations. Within each hazard, this information is offered in a variety of different ways and by several institutions/agencies both belonging to the consortium and worldwide. The true challenge of the system is to gather and organise this information rapidly to provide the MHOB a thorough description of the situation - the main “ingredients” for the reporting. To this end, the SPADA (Scientific Products Archiving and Document Assembly) IT platform (currently under development) gathers the scientific information by availing of information provided by different sources and through different means spanning from automatic web services queries to manual upload. The MHOB expertise service is provided to ERCC both orally and through the reports assembled using the available information which are in turn transferred to ERCC via the ERCC portal developed by JRC.

In conclusion, ARISTOTLE is unique in the sense that it combines scientific information integration with operational services across very diverse hazards to provide fast multi-hazard assessments of disaster situations. Moreover, the system being developed has been designed to be scalable both in terms of additional hazards to be included and of participating institutions and operating centres.