

## **T3.1-O3. Real time monitoring system of Earthquakes and Tsunamis for advanced early warning system and prediction researches -For the disaster mitigation of Earthquakes and Tsunamis-**

For the last few decades, many destructive earthquakes and tsunamis occurred in the world. Based on lessons learnt from 2004 Sumatra Earthquake/Tsunamis, 2010 Chilean Earthquake/Tsunami and 2011 East Japan Earthquake/Tsunami, we recognized the importance of real time monitoring on Earthquakes and Tsunamis. There are some kinds of real time monitoring system such as Dart buoy and ocean floor network. Especially, the real time monitoring system using multi kinds of sensors such as the accelerometer, broadband seismometer, pressure gauge, difference pressure gauge, hydrophone and thermometer is indispensable for Earthquakes/Tsunamis monitoring. Furthermore, using multi kind of sensors, we can analyze and estimate broadband crustal activities around mega thrust earthquake seismogenic zones. Therefore, we deployed DONET1 and are developing DONET2 which are dense ocean floor networks around the Nankai trough Southwestern Japan. DONET1 have deployed on the Tonankai earthquake seismogenic zone, then DONET2 is deploying on the Nankai earthquake seismogenic zone. DONET/DONET2 with 51 observatories will be expected to monitor slow events such as low frequency tremors and slow earthquakes. Based on the long term observation using DONET1/DONET2 and advanced simulation researches, we can estimate the seismic stage which is the inter-seismic or pre seismic stage.

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