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The SuperFGD for the T2K near detector upgrade

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Tokai-to-Kamioka (T2K) experiment is a long baseline neutrino experiment in Japan. T2K started data taking in 2010 and obtained a hint on matter-antimatter asymmetry in neutrino oscillations. To provide better sensitivity, T2K plans to have a run extension with higher intensity beam and an upgrade of the T2K near detector. We adopted a novel detector called SuperFGD as an upgraded fully-active target tracker. It consists of about two millions of plastic scintillator cubes and about sixty-thousand readouts through WLS fibers and MPPCs. It provides fine granularity and larger acceptance to suppress systematic error. The new detector will be ready to accept the beam in 2022. We will report the current status of the new detector.

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