

## Initiative of Fusion Science and Technology in Thailand: Progress, Perspective, and Partnership

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Fusion energy is a promising solution to future energy crisis. Yet reaching milestone for commercialization fusion reactor is still challenging task and still requiring exceedingly large financial and human resource. Raising awareness, investing in sufficient infrastructure, and preparation for manpower are ones among a few must to be recognized. Thailand institute of nuclear technology (TINT) is taking a bold step to install its fusion facility complex as an initiative toward fusion research in Thailand. The former tokamak HT-6M is being overhauled with up-to-date subsystems for such as heating, diagnostic, control, data acquisition, etc. and to be the first tokamak in Thailand (TT-1) and in southeast Asia (ASEAN). This TT-I project is under a collaboration with Institute of Plasma Physics, Chinese Academy (ASIPP) and is expected to commission its first plasma in Thailand in December 2022. In the meanwhile, many aspects of TT-1 are studied and predicted using integrated predictive code. This work will address key important scenarios of TT-1 that would support physics of the early operation phase of larger tokamak device. This

contribution is also presenting an engagement in HRD platform in ASEAN region, an update and progress, and including near-term plan of the facility for wider fusion research community.

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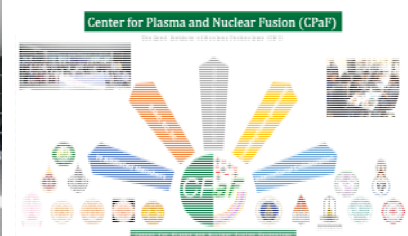
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(a)



(b)



(c)

**Figure 1** (a) The new tokamak building complex is under construction at TINT hearquarter Nakorn Nayok, Thailand. (b) ASEAN School for Plasma and Nuclear Fusion ASPNF-2020 (c) Center for Plasma and Nuclear Fusion Technology (CPaF) network and its function