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Future Ground-based Gravitational Wave Observatories: Report from the Gravitational Wave International Committee

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Future ground-based gravitational-wave (GW) observatories are planned for the next decade in Europe (Einstein Telescope) and the United States (Cosmic Explorer). Additionally, possible upgrades of the existing LIGO observatories (Voyager) as well as a southern hemisphere detector (NEMO) are under discussion. In this talk, I'll summarize a series of reports by the Gravitational Wave International Committee (GWIC) '3G' Subcommittee on next generation GW facilities including a summary of the major science themes, needed detector R&D and computing challenges. I'll also highlight some key recommendations to the GW community addressing some of the opportunities and challenges that come with building the next generation of billion euro/dollar scale GW observatories.

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