

Chapter 10: Technical R&D Supporting Japan in the 21st Century

[Promoting technical R&D]

Based on its basic plan on technical R&D, MLIT is promoting cross-sectoral and integrated R&D of technologies at all levels of the ministry, including bureaus at the headquarters, affiliated research institutions, regional development bureaus, and the Hokkaido Regional Development Bureau, while improving the framework for the partnership among industry, government and academia. Technologies thus developed are reflected in construction and transport industries, as well as in related public works projects.

<Gist of the MLIT technology basic plan>

Five goals concerning our daily activities

- Goal 1 : **[Safety]** To achieve a safe living environment
- Goal 2 : **[The environment]** To restore an favorable environment and build a beautiful and sustainable country
- Goal 3 : **[Cost]** To achieve a comfortable and inexpensive life
- Goal 4 : **[International competitiveness]** To achieve a vibrant society with international competitiveness
- Goal 5 : **[Participation]** To achieve a society where anyone can feel a sense of membership in it



Ten priority projects designed to meet the five goals

1. Reinforcement of earthquake disaster countermeasures focusing on the Tokai, Tonankai, and Nankai regions
2. Developing integrated technologies to reduce and prevent accidents on land, at sea and in air
3. Developing eco-friendly, low-emission transport facilities
4. Developing technologies to achieve infrastructure development that can cohabit with nature
5. Developing technologies to create a recycle-oriented society
6. Creation of a global-scale reproduction database on environmental change and elucidation of the mechanism of global warming
7. Developing technologies that allow for deep underground utilization that is safe and inexpensive
8. Developing automation technologies, including construction robots
9. Developing technologies to assess the robustness of infrastructure with the nondestructive inspection approach
10. Opening up a new frontier in space and ocean

[Improving construction management technique]

MLIT is making efforts to improve its cost estimation technique in public works projects, including an attempt to make a shift from the “Capital Cost Estimate method” to the “unit price-type estimation method.” The ministry is promoting the application of ISO management systems to public works projects. For more effective and efficient construction projects, MLIT is also working to develop and upgrade construction machinery and enhance safety management in construction works.