

Environmental Sciences

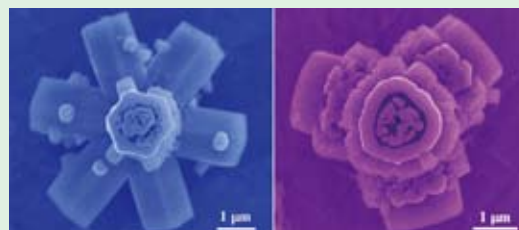
The CSTP promotes R&D to satisfy both the conservation of the natural environment and economic growth, and to realize sustainable development: R&D related to climate change, hydro-logical cycles and solute transport in watersheds, ecosystem management, chemical risk and safety management. "3R" (reduce, reuse, recycle) technologies, and biomass utilization technologies. Japan would like to contribute to the world through these R&D activities.



Tower flux observation site measuring CO₂ balances of forest at Mt. Fuji (courtesy of the Forest and Forest Products Research Institute)

Nanotechnology / Materials

Nanotechnology /Materials, which aim to control the atomic- or molecular-sized structure, are remarkably improving the conventional materials, electronics, biomaterials technology, and so on. The technology contributes to the innovation as the scientific/technological infrastructure, creating new and extensive fields such as nanomaterials, nanoelectronics, and nanobio technology.



SEM images of ZnS nanocrystals grown by the CVD method (courtesy of National Institute for Materials Science)

Energy

With growing concern about constraints on the supply and demand of energy and climate change around the world, the CSTP supports R&D that will help to balance environment and economy and at the same time ensure stable energy supplies and contribute to reducing environmental burdens, including energy-saving, renewable energy and nuclear power technologies.



Monju prototype of fast breeder reactor (courtesy of Japan Atomic Energy Agency)

MONODZUKURI (manufacturing) technology

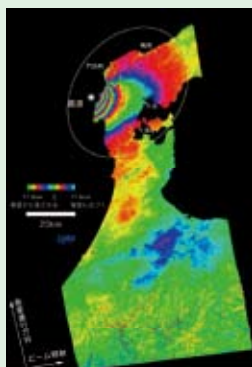
MONODZUKURI technology is more than just the development of technologies for manufacturing. One of the most important policy challenges is to maximize the added value by reaching the service and information technology industries. Technologies for minimal-resource, energy saving and manufacturing of high-quality products that can withstand the rigors of the consumer market have been the Japan's advantages. By boosting such technological strengths furthermore, the CSTP will seek to make Japan the world leader in MONODZUKURI.



Manufacturing of a turbine shaft (from the business report on MONODZUKURI EXHIBITION)

Social Infrastructure

To make Japan the world's safest country, the CSTP encourages the development of technologies to monitor and manage national land and mitigate disasters, and new technologies to support activities at disaster sites. It also deals in the development of technologies for rebuilding infrastructure and urban areas, and new technologies for traffic and transport systems to make a major rehabilitation of the aging infrastructure and to respond to a society in which there are fewer children and more elderly people.



Analysis of crustal disturbance after an earthquake, created by the Advanced Land Observing Satellite "Daichi" (courtesy of JAXA)

Frontier

To establish technologies that will enable a full command of the frontiers of the ocean and outer space, and pioneering of the use of these frontiers, the CSTP encourages the development of highly reliable space transport systems, technologies for improving the reliability and functions of satellites, next-generation ocean exploration vessels, and offshore platform technologies.



Earth Observation and Ocean Exploration System (Deep Sea Drilling Vessel CHIKYU) (courtesy of Japan Agency for Marine-Earth Science and Technology)