

Aiming at Creating a Photo-Medical Industrial Valley Lasers in Medicine

This project aims to develop a much more compact cancer diagnosis and treatment instrument using ion beams driven and controlled by high intensity laser technology.

JAEA has successfully proposed this novel project to the Ministry of Education, Culture, Sports, Science and Technology (MEXT), seeking the creation of a “photo-medical industrial valley” base in FY 2007.

In October 2007 we established the Photo-Medical Research Center (PMRC) as a chief directorate and central control “hub” for developing a network for cooperation with industry and universities, and to promote this new endeavour.

With the possibility of compact laser-driven treatment facilities being built within the next 10-15 years, we envision that the world will have much greater access to hadron cancer therapy, for which the global demand is continuing to grow.

Promotion of PMRC is fundamentally based on the development of industrial laser technologies for ion acceleration and companion development of related applications such as endoscopy.

The cooperative organization with ten partners and their roles are shown in Fig.11-1. The innovations for which the creation of “Photo-medical industrial valley” is intended are shown in Fig.11-2.

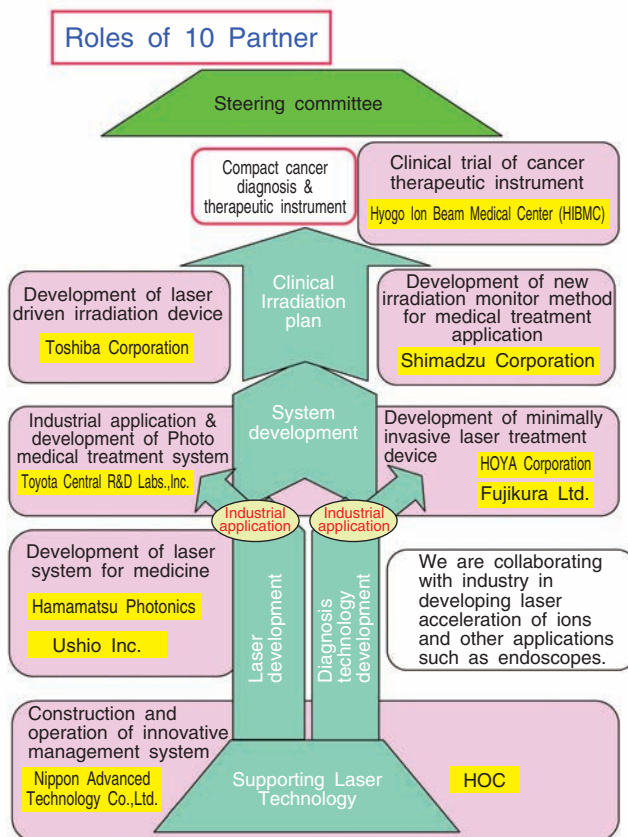


Fig.11-1 PMRC Partners and Their Roles

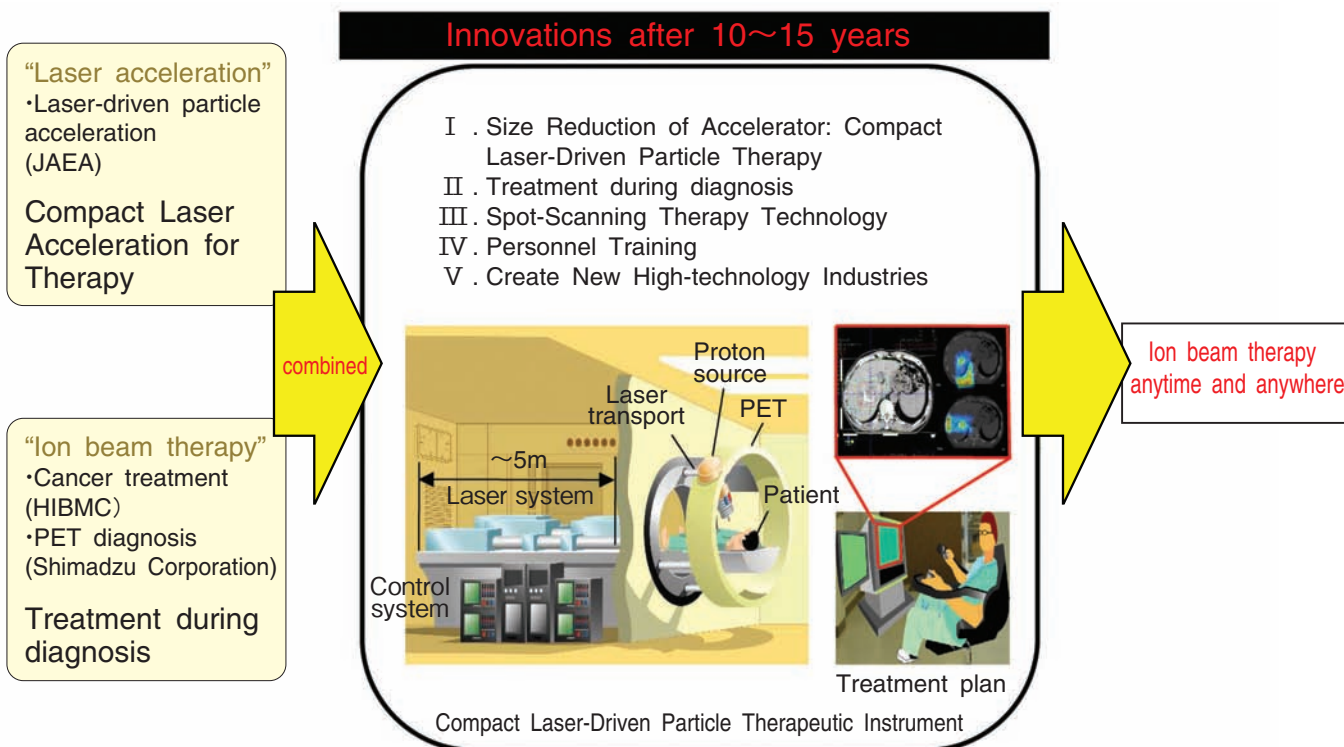


Fig.11-2 Concept of the Desired “Photo-Medical Industrial Valley”