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Partnerships Between Research Institutes and Industry:

Information & Communication the Cornerstones of Success

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In 2006, the German Cancer Research Centre and Siemens Healthcare entered into a strategic alliance to combine their expertise in oncological radiology and radiation therapy. The present six-year pilot stage aims to improve diagnostic imaging and radiotherapy technologies to provide new quality imaging information about tumours for radiotherapy planning, monitoring and patient aftercare. Siemens Healthcare contributes state-of-the-art equipment, and the centre provides its scientific know-how.

Especially given the turbulent economic situation of the present, teamwork between industry and science plays an important role by ensuring that healthcare doesn't lose ground. With this in mind, the successful strategic alliance between Siemens Healthcare and our centre has demonstrated an effective model for other institutions to benefit in a similar way.

Project Organisation

The organisational framework within the centre was established after both partners defined research areas and legal requirements of the collaboration. The centre provides scientists from five departments of the imaging and radio-oncology research programme to the collaboration. The projects have diagnostic and therapeutic research focuses ranging from radiological imaging for oncology and 7 Tesla MRI, and from molecular imaging to adaptive radiotherapy.

An integrated diagnostic and therapeutic centre links these individual projects and enables optimised workflow for the treatment of cancer patients. A key element in achieving this primary goal is a joint software platform combining all relevant diagnostic and therapeutic data.

The considerations outlined below reflect the experiences had during the development and implementation of internal project management structures and processes. There is a particular focus on interdepartmental collaboration, related issues and their solutions.

Time Management

A fundamental prerequisite for optimal project performance is time management. The majority of involved scientists only work part-time for the strategic alliance. Handling project tasks besides ordinary research and clinical routine detracts from the performance of the project, since project-related work can be considered as less important compared to department-related responsibilities. Therefore, the involved department heads agreed that all team members would be allocated enough time besides their departmental work to perform their projects and to attend related meetings.

Hierarchy

The implementation of clear hierarchic structures for the project is a second major requirement. Project managers need freedom of action and appropriate competences to lead their team and to perform their tasks successfully. To encourage collaboration and change acceptance, project managers themselves must be competent and dedicated. They have to be provided with decision-making authority for the projects, and have to be supported by the department heads and management. Finally, individuals are often acting on a different level of hierarchy compared to the position they represent within the regular department structure.

The hierarchy is organised as follows. Each project is lead by a scientist, responsible for scientific performance and team coordination, including the related subprojects. Since the contributing departments focus on different research topics like radiology, radiation therapy and nuclear medicine, the academic background of the involved scientists varies from medicine and physics to computer sciences.

Depending on the research focus, the project teams consist of medical scientists, physicists and/or computer scientists from the software team. Additionally, an administrative project manager was established for the entire collaboration, whose main responsibilities are monitoring, controlling and reporting as well as the handling of all other administrative issues.

This manager is the internal contact person for scientific project managers, department heads and the board of management as well as the external contact person for the collaboration partner.

Information and Communication

Other highly important cornerstones are a continuous flow of information and a lively and open communication. The following meetings were established to facilitate a bottom-up and a top-down flow of information and strengthen the participants' involvement in decision and planning processes:

- Weekly meetings between scientists involved in the respective subprojects to discuss operating questions like work progress, problems and short-term action items;
- Monthly meetings between the department heads and the scientific and administrative project managers to discuss cross-project and related issues;
- Quarterly internal steering committee meetings with the board of management to discuss future projects, strategic decisions and escalating issues, and
- Every six months a joint workshop between DKFZ and Siemens Healthcare to present the project progress and to bring together DKFZ scientists with colleagues from Siemens working in research and development departments of Siemens Healthcare.

If required, meeting frequency is increased or ad-hoc meetings take place. Since passive information is closely linked with active communication, another objective is to inspire informal communication between project members by bringing them together face-to-face. Every six months, a project progress report is compiled for documentation purposes and to allow partners to inform themselves about project status.

Lessons Learned

Two years into this joint venture, the project is on the right track. In many areas the cooperation has developed successfully, some results even exceed expectations. Departments involved with the projects increased the rate of joint publications. New research opportunities arose from the fact that scientists at DKFZ can directly communicate with Siemens developers, gaining access to functionality not yet released via an official product. Siemens, on the other hand, received expert feedback on newly developed hardware and software functionality, and acquired direct access to the latest scientific and medical research in the field of oncology, which will become relevant in future products.

Foresight for the Future

To be even better positioned for future challenges and to fully exploit the high potential of the collaboration, one of the goals is to acquire third party funding for realising new projects within the scope of the strategic alliance. The achievements made by the projects may also help to attract new members to the collaboration, both from the already participating partners DKFZ and Siemens, as well as other institutions.

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