



RADSHIP

RADShip is a comprehensive software package that efficiently manages all aspects of shipping radioactive materials, except for the calculations for classifying the material. It fulfills, and in many areas exceeds, the IAEA Specific Safety Requirements SSR-6 [3] which states that “a management system based on international, national or other standards acceptable to the competent authority shall be established and implemented for all activities within the scope of the Regulations, as identified in paragraph 106, to ensure compliance with the relevant provisions of these Regulations {...}”.

In matters of shipping radioactive material, RADShip complies with the UN Recommendations on the Transport of Dangerous Goods (Rev.18 2013); the European Agreement concerning the International Carriage of Dangerous Goods by Road (2013); the US Code of Federal Regulations Part.49 (2014); and the Dangerous Goods Regulations from IATA (2014).

The RADShip application has a local database back-end and a web interface for user interaction. It was developed to fulfill CERN's needs in managing radioactive shipments and is part of CERN's overall management system for the shipping of dangerous goods.

AREA OF EXPERTISE

- Radiation protection
- Management of transport of dangerous goods

IP STATUS

The software rights are exclusively owned by CERN, but the software is available under academic and commercial licence. For more information refer to the KT contact in this document.

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Find out more at:

kt.cern

PLATFORMS

ORACLE database back-end. Interface on a webserver
Windows ASP.NET 2

APPLICATIONS

The tool provides a reliable and resilient system with many QA features, automatic notifications and reminders, and ensures full traceability. It replaces paperwork with electronic data and manual phone calls with automatic email notifications.

In addition, it provides a comprehensive answer to all legal requirements, improving the efficiency and reliability of radioactive material shipments whilst ensuring reactivity and decreasing potential errors.

RADShip's architecture limits the dependencies to the CERN environment so that the software is easy to integrate in another environment. The effort required for this task is estimated to be in the order of few weeks including installation and customisation.

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ADVANTAGES

- Web application uses a local database back-end that ensures full data security and control.
- Automatic mechanism simplifies tasks, prevents errors and enhances users' experience.
- Locking mechanism minimizes errors and fully meets regulatory requirements.
- Quality assurance and tracking system. All transactions and interactions with the application are time and name stamped.
- Automatic generation of regulatory shipping documents minimizes errors and improves efficiency.
- The application is easy to customize and adapt to most software environments.

LIMITATIONS

- Some customisation is necessary before the application is operational in another environment.
- The calculations for the definition of the transport classification are not within the scope of the RADship application.
- Currently, the application only handles Class 7 radioactive material, but can be extended to other classes. The required time and effort for this needs to be assessed on a case-by-case basis. For further information please refer to the KT contact in this document.

AUTHORS

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RELATED PUBLICATIONS

- Y. Donjoux, RADSHIP, a tool for shipments of radioactive material worldwide, Proceedings of the 17th International Symposium on the Packaging and Transportation of Radioactive Materials, PATRAM 2013, August 18-23, 2013, San Francisco, CA, USA.

