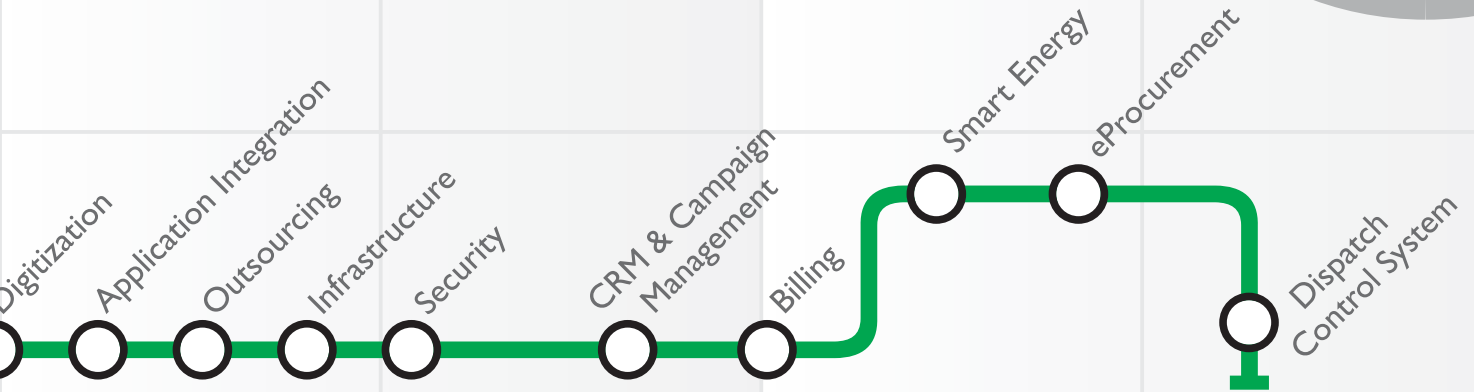




Ness Technologies



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System for nuclear power plants decommissioning and nuclear waste management



System for management of nuclear



The number of nuclear reactors being decommissioned in European Union is growing rapidly. Ness Technologies has unique and proven system for planning and management of decommissioning projects.

Decommissioning in Europe

In the European Union, nearly 150 nuclear reactors generate about one-third of the world's installed nuclear power capacity. However, about 50 blocks shut down since 1989. Most of them are only now being decommissioned. Reasons for decommissioning vary. Leaving aside accidents, most important ones are end of equipment lifetime (most of current reactors are in second half of its ~40 year lifetime) and political decision. Germany, is planning to close down all 22 nuclear power plants on its territory by 2022. France derives about 75% of its electricity from nuclear energy. This share is to be reduced to 50% by 2025. Within 6 years 22 out of France's 58 reactors will have been operating for over 40 years. Most of the reactors shut down since 1990's are waiting for decommissioning and dismantling. The actual decommissioning is technically, legally and financially extremely demanding process, lasting for decades. It is therefore necessary that all steps are always planned in detail and managed in a qualified manner. All handling of materials and the related logistics flow must be fully recorded also for potential future re-evaluation. Our unique system solution is a tool for planning and management of individual decommissioning projects.

Case study - Jaslovské Bohunice power plant decommissioning

Currently, we are implementing a unified system for the support of the entire process of decommissioning of block VI at Jaslovské Bohunice nuclear power plant. Decommissioning is managed by JAVYS, a.s., a company with a strong position in Central Europe, specialized in ensuring energy security and managing the final stage of nuclear energy production, i.e. the decommissioning of nuclear facilities, handling of radioactive, hazardous and other materials and their final disposal.

Our solution for Jaslovské Bohunice is unique in application of SAP proces platform as a base for the whole system. We have developed our own system superstructure for planning and management of individual decommissioning projects, including detailed monitoring of all operations of handling materials and their flows at all stages of the logistics process. The solution incorporates automatic financial reporting of both planned and actual state of the project.

The project is delivered through agile methodology with an iterative method of solution development. This approach allows for the most efficient delivery while minimising common project risks.



Ness's international experience

Ness Technologies has a dedicated team of specialists with unique know-how for the energy sector. We have experience from both local and international projects for major companies, including contracts co-financed from EU funds. Ness provides complete system solutions as well as process know-how and related business consulting.



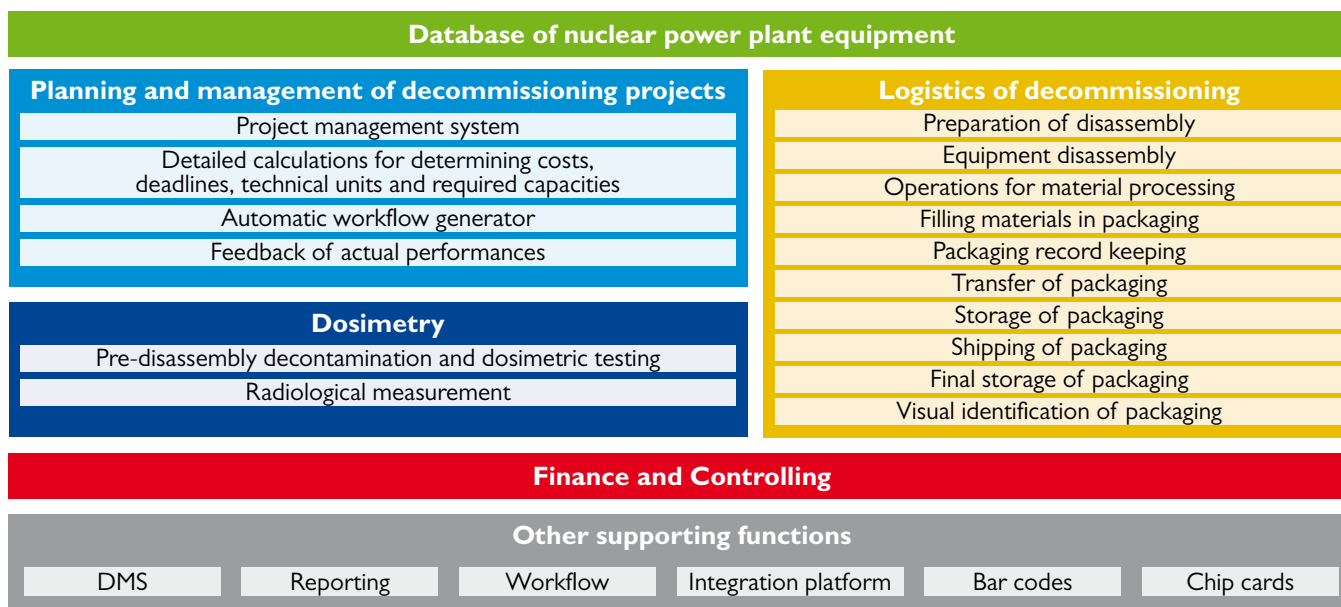
Technological independence

Leveraging our strong partnerships with technological leaders in the respective field, we are able to offer each customer the optimal solution based on the technology of their choosing or recommended by us as best matching their needs.



power plants decommissioning

Key features of the system for nuclear power plant decommissioning



Selected system properties

- **Database of nuclear power plant equipment (NPP)** – a database containing all the equipment of the NPP. Complete technical, physical and radiological attributes are recorded for each part of equipment - crucial for planning and managing the entire decommissioning process.
- **Decommissioning project planning and management** – based on the information in the NPP equipment database, the system generates a plan for each decommissioning project with established costs, deadlines and capacities and anticipated volume of produced material classified as radioactive, hazardous or other. The system automatically determines expected processes and operations for material items from dismantling to disposal and generates workflow. Project development is monitored, operations reported automatically, while comparing reality to plan.
- **Decommissioning logistics** – a functionality for complete coverage of logistics processes of produced materials and packaging within the entire life cycle, i.e. from dismantling preparation, through dismantling, handling of materials, up to the shipment and final disposal. Each material is clearly identified within the packaging at any point of the process, including complete flow (sequence of operations, person responsible) of material to its originator – its entire history, up to the reference to the original NPP equipment.
- **Dosimetry** – system tools for dosimetric mapping and radiological measurement of materials and packaging.
- **Finance and Controlling** – all relevant operations of the listed logistics processes are automatically reflected in financial and cost accounting in real time for financial and controlling analyses.
- **Other supporting functions**
 - **Document Management System** – keeping track of all decommissioning related documents
 - **Reporting** – analysis and reporting in all areas of decommissioning
 - **Workflow** – a system support of various processes with effective management of sub-tasks assigning with clear responsibilities at the relevant stages of the process
 - **Integration platform** – a versatile system tool for sharing information with third party systems (acquisition of measured values from road and rail scales; chamber for radiological evaluation of releasability/non-releasability of material into the environment, etc.)
 - **Mobility, bar codes, chip cards** – effective management of waste and packaging disposal, easy identification of the contents origin.



Ness Technologies is both your experienced business consultant and IT services provider. We connect business insight with technological expertise so as to help you to meet your targets, improve business efficiency and boost your overall success. We combine IT solutions, software, applications and outsourcing services in order to fully match your corporate requirements. Our services are based on future-proof solutions, robust competencies and major technology vendor partnerships. We have long-term experience of complex IT implementation across a range of industrial sectors in various European countries. More than 800 Ness experts in the Czech Republic, Slovakia, Hungary, Romania and Macedonia combine global knowledge with local expertise.



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