framatome

LADON

Productivity Suite for Core Design and Safety Analysis

LADON is Framatome's productivity suite for core design and safety analysis

Challenge

The nuclear industry is transitioning to a new generation of engineers at the same time cost pressures and efficiency requirements are increasing. LADON modernizes Framatome's design and analysis workflows by enabling:

- Accelerated understanding of engineering analyses through visual workflows
- Continuous improvement of analysis quality
- Smooth data exchange between engineering disciplines
- Automated reporting and quality assurance features to reduce manual effort and improve consistency

Solution

LADON is a modern productivity suite developed by Framatome to simplify and accelerate nuclear core design and safety analysis work. It combines automation with intuitive graphical interfaces to support a wide range of engineering codes and workflows.

Intuitive Tools
Graphical interfaces make complex tasks easier to comprehend and faster to perform.

Automation That Saves Time
LADON enables engineers to quickly build and adapt workflows while focusing on physics and analysis rather than organizational tasks.

Consistent and High-Quality Results
Standardized data formats improve clarity and allow data reuse across analyses, saving effort and improving consistency.

Flexible, Modular Architecture
LADON's building blocks adapt to many codes, processes, and simulation environments – including legacy tools.

Scalable Computing
Multithreading support and cluster computing expand solution space and speed up analysis.

Modern Tools
Built on widely adopted, openly accessible technologies such as Python, Qt, and standard markup languages, ensuring long-term maintainability and seamless integration.

Customer benefits

- Improves efficiency through visual workflows
- GUI-based tools enhance process readability
- Modular toolkit enables rapid development of new workflows or adaptation of existing ones
- Enhances QA through a dedicated feature set for reviewing analyses
- Simplifies data exchange between disciplines
- Certified project workflows ensure consistent execution of engineering guidelines, reducing human error and improving safety and quality
- Fully integrates ARCADIA workflows through automated packages

Key figures

15+ automation tools

10+ graphical user interfaces

1 comprehensive tool suite

Global User Community
France, Germany, United States, Switzerland, Netherlands, Brazil

Licensing Methodology Support
ARCADIA and PRISM

Specialized Automation Platforms
Ejected Rod Analysis, Power Distribution Control Analysis, ARCADIA-based reloads

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Your performance
is **our** everyday **commitment**

Technical Information

LADON includes a comprehensive set of tools that support each stage of the core design and safety analysis process.

Automation and Workflow Control

ATLAS is the central hub for automating processes, creating calculation workflows for collaborative engineering analyses, multidisciplinary data transfer, and performing quality assurance checks.

Core Design Development

POSEIDON is a graphical interface for efficient loading pattern design, allowing engineers to manage multiple optimization trials with comprehensive visual displays of results to support fast, informed decisions.

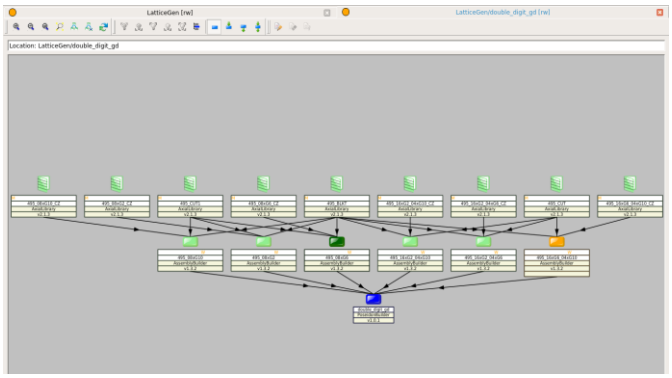
Input Preparation Tools

Extensible GUI-based tools built on the Qt platform standardize and visualize engineering inputs.

- PANELGEN: Automates input deck generation
- KALLISTO: Create and edit inputs in text or graphical formats
- DICTIONARY: Provides definitions of standard solver keywords
- COREGEN: Automates core geometry and mesh development
- CLARUS: Assists in generating calculation inputs for cross section libraries
- CHARM: Assists in cross section development and analysis

Output Review Tools

- ACHERON: View solver outputs in a variety of formats, from 0D parametric curves to 3D core views
- PLOCOB: Graphical displays of thermal-hydraulic results
- ORION: Generates reports for calculation results



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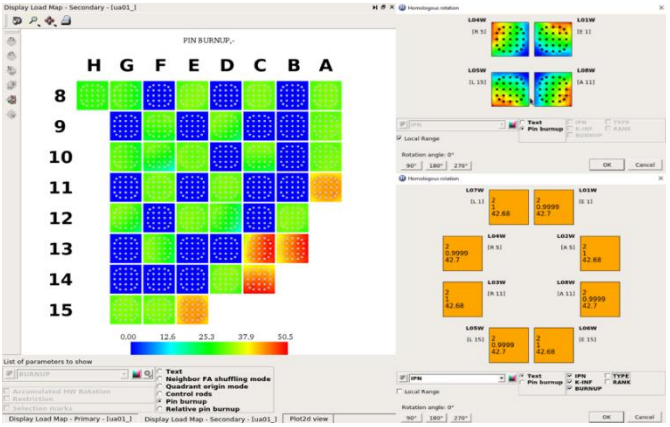

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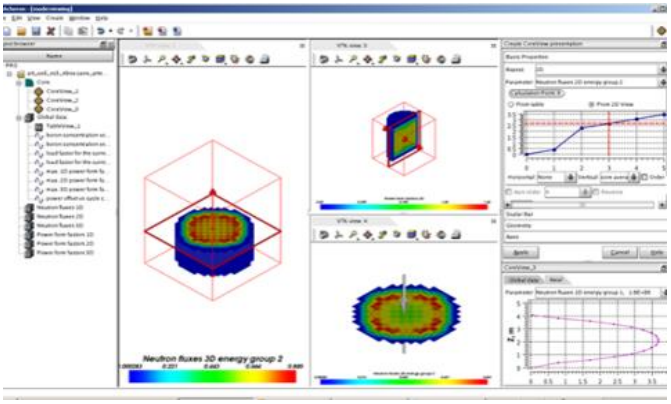

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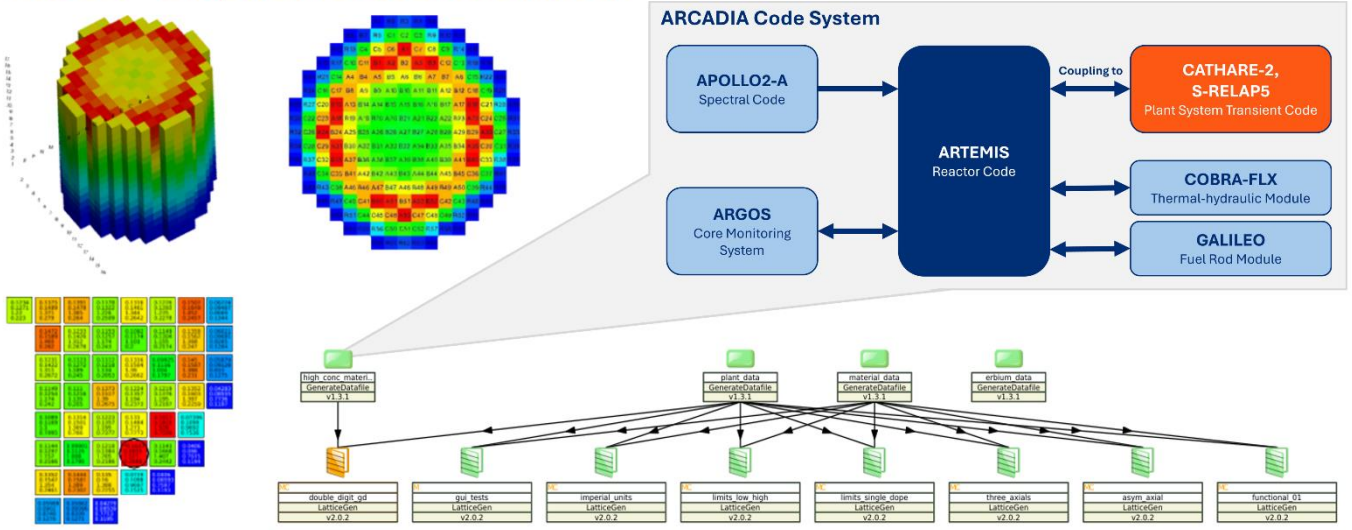
LADON – Graphical User Environment



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Contact : sales-fuel@framatome.com
www.framatome.com

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