![SIEMENS Ingenuity for life]

HEEDS Workflow Manager

Accelerate product development by automating time-consuming and repetitive simulation workflows

In today's market, innovative companies are using more simulation and model-based engineering approaches to create a Digital Twin and reduce the product development cycle. However, as designs become more complex, workflow and data integration create additional challenges. Many designs are transferred continuously between departments until a suitable design is reached – allowing for various productivity barriers such as cost, data incompatibility, error, iteration, miscommunication, reproducibility and scalability issues, and time. In addition, within departments, repetitive tasks present the risk of error and incorrect results' interpretation.

More than ever before, engineers need a streamlined solution to manage and solve complex problems without adding to the design cycle timeline. HEEDS Workflow Manager, offered in the Simcenter portfolio from Siemens Digital Industries Software, is the perfect solution. Imagine achieving better products, faster with less testing or repetitive manual simulation work.

HEEDS Workflow Manager is a tool that assists in accelerating product development, reducing risks and errors, and improving communication between departments by applying its workflow automation, compute management, data processing and results visualization capabilities. Organizations use HEEDS Workflow Manager to remove productivity barriers and efficiently utilize software, hardware, and engineering resources.

Advantages

- Easily interfaces with commercial CAD and CAE tools as well as internal software.

- Efficiently integrates with existing hardware investments.

- Using an automated process removes the possibility of human errors and delays in manually repetitive tasks.

- Users gain greater understanding by leveraging comprehensive post-processing capability.

- Easily develop workflows that can be deployed throughout the company.

- Data management ensures traceability (easy connection to TcSim and Teamcenter).

- With established automated workflows, repetitive tasks can be streamlined in a single push-button environment.

- The Global HEEDS Team is readily accessible and responsive.

Remove productivity barriers

Workflow Automation

Workflow automation refers to the automation and execution of processes based on workflow rules where manual tasks, along with data or files, are routed between people, departments, or systems - based on pre-defined workflows. HEEDS Workflow Manager enables automated workflows for the ease of driving product development processes. With an extensive list of developed interfaces to commercial CAD and CAE tools, HEEDS Workflow Manager quickly and easily integrates many technologies without the need for custom scripting. The data is automatically shared between different modeling and simulation products and results presented in a concise manner for easy interpretation of the data. Using a drag and drop interface to add and arrange tasks, HEEDS Workflow Manager automates workflows that can be planned and designed visually to either simulate or improve upon existing processes.

Compute Management

HEEDS Workflow Manager manages submission of software simulations to and from defined hardware. Utilize Windows and Linux based workstations or clusters either locally or remote, as well as cloud computing resources, such as Rescale and Amazon Web Services, to accelerate innovative product development.

Data Processing

HEEDS Workflow Manager runs pre-defined concept(s) or conditions automatically via direct user input.

Application areas include:

- Data transferring between tools
- Automating single or multiple load case requirements
- Validating latest concepts
- Comparing performance between concepts
- Running a design sweep across the design domain
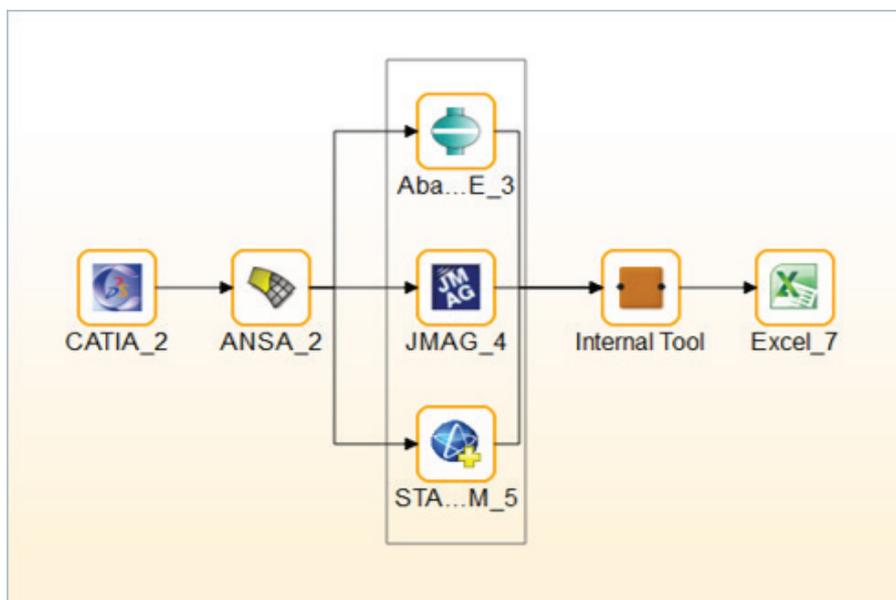
Results Visualization

HEEDS Workflow Manager helps users visualize concept performance with various plots, tables, graphs and images, to gain insight on data interpretation.

Deployment

Once processes have been developed and approved, HEEDS Workflow Manager allows for the easy creation of templates based on committed workflows. This allows for key stakeholders to be involved early in the process of developing the workflow, but mass deployment globally for engineers or designers throughout the company, with or without an understanding of the underlying simulations being executed. Enabling designers to rapidly develop concepts and understand the performance of those designs can unlock innovation on a widespread scale.

When coupled with a data management product, such as Teamcenter Simulation, these templates can be executed to ensure traceability between departments minimizing the likelihood of miscommunication or the inefficiencies in the process. This also ensures the approval of the stakeholder before modifications to the workflow can be made. Collaboration between departments, groups, and engineers are increased and captured as a result. Engineers' time can now be spent more efficiently on post-processing to gain greater understanding of product development.

HEEDS Workflow Manager is imperative in a digital transformation society. In a highly competitive market, this efficiency allows companies to save days, weeks or even months in the product development cycle resulting in significant cost savings and faster go-to-market strategies. HEEDS Workflow Manager gives users the necessary tools to tackle complexity and embrace modernization faster than ever.

Existing tools can be linked from either a direct interface (portal) or a generic interface to any simulation tool.

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