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**STEP - Standard for Engineering Globalization**

As it was announced before, SoftInWay has been awarded with Small Business Innovation Research (SBIR) grant for Phase I research by National Institute of Standards (NIST). The research is focused on development of standards-based tests, cases and tools facilitating data exchange in STEP format between CAE systems. STEP is a unique standard that is developed for users by users and is supported by various CAD / CAE vendors and government entities. In the era of globalization it becomes a platform for direct interaction of engineering community worldwide. At the same time, avalanche-like deployment of STEP doesn't mean that it has already found the right place in everyday practice. The information presented here is our modest contribution to the efforts of major STEP players disseminating knowledge of this standard among our subscribers.

STEP is live, open and extensible, so you can be sure that it will meet your design and manufacturing needs well into the current century. Because of this, we welcome [your feedback](#) – it will help to focus STEP further progress in the direction of new Application Protocols development.

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**Openings in SoftInWay**

We currently invite you to explore the vacancies that the links below are leading to:

[CAE Software Developer](#)

[Project Manager, Engineering Consulting](#)

[Sales Engineer/Project Manager](#)

You will join a strategically focused and highly motivated team involved in research, mechanical engineering, design consulting and software development. You also will have an opportunity to work on multiple projects in a flexible, friendly environment.

**Latest Press Releases**

**SoftInWay Released AxSTREAM™ 2003.10 - a Software Tool for Axial Turbines Design**

SoftInWay, Inc. is announcing the first commercial release of **AxSTREAM™ 2003.10** – the powerful software suite that encompasses the complete engineering process of gas/steam axial turbine flow path conceptual design and optimization, and delivers an advanced engineering desktop solution for use in turbomachinery industry.

**AxSTREAM™** has been developed and refined through a rigorous process that systematically incorporates the in-depth domain knowledge, vast experience of gas/steam turbines design and manufacturing, reliable test data and the theoretical and computational advances.

[More>>](#)

**SoftInWay's Online Presentation**

**An opportunity to view our capabilities in Design and Engineering Consulting at a glance!**

The presentation gives a graphically illustrated overview of visualized samples of SoftInWay's projects and solutions in different kinds of our consulting services. This presentation featured more viewer-oriented approach with separate sections devoted to a certain kind of activity for a wide array of rotating and other kinds of machinery. It contains examples of design applications along with CFD, heat transfer, structural/thermostructural, visualization and software development.


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**Welcome to our Science Club!**

**New Mechanical Engineering Papers!**

We will be glad to publish your papers on mechanical engineering in our Science Club. Please submit your articles to [lm@softinway.com](mailto:lm@softinway.com)

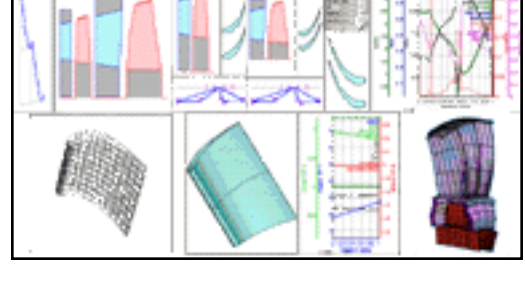
Latest:  
**L. Moroz and A. Tarasov**  
**Coupled CFD and Thermal Steady State Analysis of Steam Turbine Secondary Flow Path**



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This software tool empowers designers to apply a concurrent development approach while solving combined problems of performance, reliability, operating life, and low-cost design and redesign process.

[More: www.softinway.com/axframe/axframe.asp](http://www.softinway.com/axframe/axframe.asp)

- The software package features the following principal capabilities:
- Turbine/cylinder/stage flow path preliminary design (pre-design) 'from-the-ground' with elements of design process automation, including definition of principal dimensions and optimal number of stages, 1D heat cycle and structural calculation of stages;
  - "Stage-by-stage" flow path optimization and determination of blades number with regard to strength and technology constraints;
  - Generation of aerodynamically "perfect" profiles of blade sections and interactive editing and optimization based on empirical data and parameterization in plain terminology; calculations of potential streamlining and profile boundary layer;
  - Automatic and interactive 3D blade stacking with geometric and strength criteria control, assignment of user-defined values for blade lean and twist, and user-friendly visualization of profiling results;
  - Multistage flow path 1D verifying computations including analysis of drastic "off-design" conditions and optimization with regard to transients;
  - Stage-by-stage axi-symmetric and meanline calculations, and blade lean and sweep optimization;
  - Reduced-order loss computations in the flow path components based on a set of proven empiric models with independent selection of the loss model for any blade row and other flow path components. Support of user-defined loss models is provided;
  - Operation with embedded library of working fluid and components material properties;
  - Utilization of a set of efficient optimization methods for all phases of design in an interactive mode;
  - Integrated powerful optimization module based on design of experiments (DOE) methodology;
  - Seamless transfer of 3D geometry for detailed CFD analysis to CFX™ and Fluent™;
  - Export of pre-meshing data to SoftInWay's **MinuteMesh-Turbo**™ powerful meshing tool and subsequent export of generated mesh to ANSYS™ for detailed blades structural and modal analysis.
  - Embedded Help system and a set of e-tutorials facilitating fast mastering of the package.
- AxSTREAM™** licensing policy allows selection of a desired set of modules. Evaluation version is available with short-term free-of-charge license.
- AxSTREAM™** was successfully used as in-house code on numerous projects ranging from large steam turbine LP stages (20 – 40 MW per stage) to HP stages of steam and gas turbines and was carefully validated against multiple sets of experimental data for steam and gas turbines.
- "This first commercial software release is the most significant and comprehensive in the company's history. It culminates long period of technological advancements and empowers the turbomachinery design and engineering community to develop better products faster," said Dr. Leonid Moroz, SoftInWay's President and CEO.

**STEP - Standard for Engineering Globalization**

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**1. What is STEP?**

**STEP** (ISO 10303), the International Standard for the Exchange of Product Model Data is a standard for the computer-interpretable representation and exchange of product data. It is not just a new IGES (Initial Graphic Exchange Specification or International Graphic Exchange Specification is neutral exchange format for 2D or 3D CAD product models, drawings, or graphics). STEP objective is to provide a mechanism that is capable of describing product data throughout the life cycle of a product, independent from any particular system. The nature of this description makes it suitable not only for neutral file exchange, but also as a basis for implementing and sharing product databases and archiving. The standard was developed by an international community for all engineering data, not just graphics.

If you develop or manage products, then you cannot afford to ignore the better geometry and version control in STEP. It is being written into a growing number of contracts worldwide because of the scope, flexibility, and quality of its product representation capabilities.

**What is STEP comprised of?**

STEP is a set of [ISO](#) standards which provide for the exchange of engineering product data. The structure of this International Standard is described in ISO 10303-1. [STEP on a Page](#) is a graphical representation of the STEP structure.

- The standards STEP is compounded of can be grouped into infrastructure components and industry specific information models:
- The EXPRESS information modeling language
    - An EXPRESS-driven data exchange file specification
    - An EXPRESS-driven application programming interface (SDAI) with bindings to the C, C++, and IDL languages
  - A conformance testing framework
  - A library of general purpose information models for things like geometry, topology, product identification, dates, times, etc.
  - Industry-specific application protocols (APs) that are built from the library of general models:
    - Explicit Drafting
    - Associative Drafting
    - Configuration Controlled 3D Assemblies
    - Automotive Design
    - Many others (Electrical, Shipbuilding, Sheet Metal, etc.)

Among the APs developed or in testing state, the most interesting for us are ISO 10303-203 (Configuration controlled design), AP209 (Composite and metallic structural analysis and related design) we are involved in now, and AP237 (Fluid dynamic data) that is passing a phase of coordination.

The list of models is open and can be supplemented with your industry-centric application protocol!

[>>More](#)

**Openings in SoftInWay**

**Welcome to join SoftInWay Inc.!** We invite you to explore the vacancies presented below:

**CAE Software Developer**

This individual should have experience in development of complex engineering software projects and a strong background in CAE tools. Excellent understanding of FEA and / or CFD methods and issues. It is essential that the individual has a strong desire to learn and explore new technologies and is able to demonstrate good problem solving skills.

- Requirements:
- B.Sc., or M.Sc., or Ph.D. in Mechanical Engineering, Applied Math or Physics with respectfully 5+, or 3+ , or 0-1 years of experience in engineering software development (C, C++, FORTRAN);
  - Thorough knowledge of FEA and / or CFD methods;
  - Hands on experience with at least one of the following tools: ANSYS, MSC.Software, ABAQUS, I-Deas, CATIA, Fluent, or CFX. Experience with SolidWorks and / or Pro/E is a plus.

**Project Manager, Engineering Consulting**

This individual will be responsible for all-round technical preparation and evaluation of project proposals in FEA-based CFD, Heat Transfer, Stress- Strain areas. Recommending improvements, the project's technical issues coordination including problems' review, sophisticated model description, precise boundary conditions evaluation, and gathering and analysis of other data required for providing further non-stop development process.

Also responsible for building and maintaining development schedules and fulfilling project deliverables on time, from inception to client sign-off. Beyond this, the candidate needs to have very sharp analytical skills, which s/he will use through the project life cycle, including detailed pre-development proposal analysis, projects feasibility estimation, and user requirements analysis.

- Requirements:
- Masters Degree or Bachelors in Mechanical Engineering with significant related experience at Power Generation Machinery oriented companies like GE, Pratt & Whitney, Rolls-Royce, Alstom. Computed Science Degree is desirable.
  - 5+ years of complex Mechanical Engineering project management, engineering application development, design, and implementation experience.
  - Experience in FEA-contained packages' implementation like ANSYS and/or similar toolkits is required.
  - Principle knowledge in CFD, Heat Transfer, Stress-Strain, Machine Design is extremely appreciated.
  - Must be strongly focused and extremely organized.
  - Proven experience in writing specifications, quality assurance, project complexity, labor effort estimation, and risk analysis skills.
  - Exceptional oral and written communications skills are essential.
  - PMI certification is a plus.

**Sales Engineer/Project Manager**

The essential job function of this person is business development and sales of engineering/software development consulting services including:

- forecast development to achieve national sales goals,
- developing and implementing a strategic sales plan to achieve national sales goals;
- identify, close and maintain key accounts;
- provide information to marketing to improve products and profitability;
- monitor and assess major competitors' activities and products.

The person will perform sales work inside and outside in support of SoftInWay's engineering services for diverse industries including Aerospace, Power Generation, Automotive, Energy, Petrochemical, Utilities, Gas, etc. He/She will prepare proposals or service contracts for SoftInWay's engineering services with deep understanding of customer requirements and FEA tools to address design issues at the earliest possible stage, maximize engineering productivity and increase efficiency of new and retrofitted equipment. Company collaboration with academia, industry, and customers around the world has led to a reputation for constant innovation in the complete design-to-manufacture process.

- Requirements:
- Minimum 4 years Degree in Mechanical Engineering or related areas with significant related experience at Power Generation Machinery oriented companies like GE, Pratt & Whitney, Rolls-Royce, Alstom.
  - 5 - 8 years experience of surpassing sales quotas in selling consulting services to C-level executives in engineering and scientific.
  - Principle knowledge in CFD, Heat Transfer, Stress-Strain, Machine Design, CAD/CAE, and Visualization is appreciated. Knowledge of MS Office and MS Project is a plus.
  - Excellent prospecting and presentation skills .
  - Must be strongly focused and extremely organized.
  - Exceptional oral and written communications skills are essential.

**About SoftInWay Corporation**

**SoftInWay, Inc.** is an engineering company headquartered in Burlington, Massachusetts, USA. Company has a sales office in Scottsdale, Arizona, USA. Company's mission is to serve international high technology community by providing high quality engineering services and software products in the area of design and modeling of turbo-, thermo- and rotating machinery; and thermal-, structural- and fluidic analyses. Company uses its proprietary technologies, and industry standard CFD and FEA tools to address design issues at the earliest possible stage, maximize engineering productivity and increase efficiency of new and retrofitted equipment. Company collaboration with academia, industry, and customers around the world has led to a reputation for constant innovation in the complete design-to-manufacture process.

For more information, visit <http://www.softinway.com> or call 781-685-4942.

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