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From: SoftInWay Inc.

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## SoftInWay through the prizm of events

One of the ways SoftInWay shares its profound expertise in digital prototyping methodology as applied to turbomachinery, power generating equipment, etc, is participation in various industries events.

**March 30 - April 1, 2004 * Baltimore, MD * Convention Center**

**Plan to stop by our booth #979!**

Click here to get more info on this show.

Come and see our exciting solutions for digital prototyping and turbomachinery design! Our products will help you to increase efficiency of your turbines and other power generating equipment , improve performance on "as designed" and "off-design" points of operation and save time and money by doing so.

For:
- 25% discount on the Individual 3-Day Conference registration
- unlimited number of VIP invitation tickets to invite clients, prospects and associates to the exhibit hall at no charge
- discounted registration packages to invite clients to the conference sessions and seminars

address us today by clicking here

## Mirror of SoftInWay's Innovations

**DoE Functionality Add-on to *AxSTREAM™***

Nowadays, an approach to multidiciplinary optimization of turbines flow path that integrates an experiment planning methodology is considered as the most advanced. Moving in this direction, SoftInWay has recently released an availability of problem-oriented design of experiment (DoE) functionality as the first "add-on" feature to it's flagship product ***xSTREAM™***- a software suite for axial turbine design, modeling and optimization.

More>>

## Welcome to our Science Club!

**New Mechanical Engineering Papers!**

Latest:

***L. Moroz and J. Govoruschenko***

**OPTIMIZATION OF MULTISTAGE AXIAL GAS TURBINE WITH AXSTREAM™ USING DOE METHODOLOGY**

We will be glad to publish your papers on mechanical engineering in our Science Club. Please submit your articles to lm@softinway.com

More articles >>

## Latest Press Releases

**SoftInWay Releases First Version of STEP AP209 Data Checker**

SoftInWay, Inc. is announcing an availability of the first version of STEP AP209 data checker. Software has been developed by SoftInWay, Inc., Burlington, MA and STEP Tools, Inc., Troy, NY within the Phase I of SBIR program "Standards Based Test Cases and Tools for CAE" funded by NIST.

***SIW AP209Checker*** comes with several test cases that FEA vendors can use for verification of their STEP AP209 translators.

More>>

## 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.

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Checker is an easy to use software tool developed for verifying data against the STEP AP209 standard of arbitrary STEP file. It allows to:
- Read input STEP AP209 files and extract finite element model (FEM) from it;
- Run data test to validate models' adherence to standard AP209 protocol and flag violations that have been found;
- Display general information of the described FEM, such as: number of nodes, number of elements, element types, boundary conditions, materials, units, etc.
- Calculate FEM integral parameters such as: volume, mass, center of volume/mass, inertia tensor, free surface, general force, general torque, minimal/maximal components of nodal displacements, minimal/maximal components of stresses without nodal averaging, constraint component counts, etc.
- Compare two STEP files based on corresponding FEM integral parameters.
- Set convergence criteria (tolerances).

In order to obtain SIW AP209Checker for evaluation, please contact tech_support@softinway.com

PDF version >>

## Mirror of SoftInWay's Innovations

### DoE functionality Add-on to *AxSTREAM™*

Integration of DoE technique in AxSTREAM™ allows solving an array of principal problems of steam and gas turbines design in significantly expanded volume providing designer with diverse sets of characteristics of future turbine.

A goal of adding DoE functionality to AxSTREAM is to facilitate and accelerate optimization process. Add-on DoE functionality is seamlessly integrated with AxSTREAM that makes possible using DoE methodology directly in the problem environment. Implemented system of filters automatically bounds a set of project parameters by those that are relevant to selected turbine design task.

For various formulations of turbine and stage mean-line design tasks many independent operational and geometrical variables can be selected for the DoE, such as enthalpy, entry pressure, flow rate, extraction values, stage hub diameter, diameter to blade height ratio, entry exit angles, etc. Response functions can be stage entry pressure, cylinder and stage velocities ratio, cylinder/stage efficiency, cylinder/stage capacity, stage reaction, maximum stresses in most loaded elements, axial loads, etc.

An ample quantity of dependent and independent parameters (up to 20) involved in DoE affords formulation a large number of problems (optimization is included) to be solved. DoE methodology can be exercised for a typical analysis used in turbine design: computation of efficiency dependences upon operation conditions, such as pressure at flow path terminals, speed of rotation, extractions volumes, etc. The tasks of optimization may be solved with regards to turbine or stage flow path geometry, for example hub diameter, blade height, cascade angles at mean radius, and other parameters.

Using response functions extracted with DoE functionality designer can obtain optimal solution up to 10 - 100 times faster than with original reduced order models.

Preserving best features of stand alone DoE tools, this added-on DoE functionality should accelerate turbomachinery design with AxSTREAM by expanding its functionality and adding significant convenience.

See on tenlinks.com>>

## 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 company's team Design and Engineering abilities in FEA-based CFD, Heat Transfer, and Structural applications development. Coordinate and schedule marketing activity. Serve as Project Manager for various projects, both temporary and ongoing.

Requirements:
• Minimum 4 year 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, increase efficiency of new and retrofitted equipment, and support inter-operability of CAE data via STEP (ISO 10303) standards. 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.