GERT-JAN A.F. FIEN — Principal Consultant

FienX Consulting Ltd.
Industrial Sustainability Services

MSc, MIChemE, CEng

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Nationality: Dutch

Career Profile

Gert-Jan (John) is a highly experienced technical consultant in the field of industrial energy and water systems. He has carried out numerous projects world-wide for clients in various types of industry and has had leading roles in several technology development programmes. He specialises in modeling, monitoring and optimisation of industrial steam, heat and power systems.

Gert-Jan managed and executed consulting projects of varying sizes and has experience of all project stages, from initial lead to final close-out, developing proposals, executing work, reporting and presenting results, and team leading. He started Fien Consulting Ltd. in 2015.

Gert-Jan has presented numerous training courses world-wide on Pinch Technology (heat integration) and on utility system modelling in Excel, including annual events for Shell and AIChE.

He has been a chartered member of the Institute of Chemical Engineers (IChemE) since 2004.

Key skills

Process Improvement
- CHP systems
- HX networks
- Simulation / Optimisation
- Dashboard development
- Cost/Benefit analysis

Consulting
- Presenting / Reporting
- Fluent English / Dutch
- Proficient in German
- International experience

Technology Development
- Expert user of MS Excel
- VBA
- GUI design/programming
- Help authoring

Experience

2016 – …   **Lead Engineer Energy Management**   OQ, Oman

Now in the Downstream Operational Excellence team at corporate HQ, Gert-Jan has been building new energy management systems: advanced on-line utility system models for simulation and optimisation, and for furnace monitoring. He also developed a hierarchical PI-Vision dashboard structure for energy monitoring of all processes and key energy assets, supports day-to-day operations, Solomon benchmarking and ISO 50001 implementation. He also serves in the core team for the Downstream "Lean Transformation" initiative.

2015 – …   **Principal Consultant**   Fien Consulting Ltd.

In this venture, Gert-Jan was contracted by the Sustainable Solutions divison of Jacobs Engineering, carrying out energy-efficiency surveys for United Utilities in the UK. He also collaborated in a Refinery Energy Management training course in Budapest, Hungary and developed the FienX Excel add-in for utility system modelling.

2012 – 2015   **Senior Staff Consultant**   KBC Process Technology Ltd.

After years of consulting and modelling experience, Gert-Jan helped to formalise his knowledge in KBC's software offerings. This consisted of:

- adding new advanced capabilities for steam system modelling in KBC's flagship process simulation software Petro-SIM. Developing specs, GUI and mathematics.

- developing a new steam ejector simulation module in Petro-SIM.

He continued supporting ongoing projects, especially on-line utility system optimisers in Turkey, Thailand, India, USA, but also a water minimisation project in Saudi Arabia.

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2002 – 2012 **Senior Consultant & Developer**   KBC Energy Services

Consulting work (~75% of time) included:

- Project Manager in large energy reduction programme for German refiner, interacting with refinery executives, operators and engineers, cooperating with management consultants, leading a 5-person team and executing part of the technical work. Responsible for outcomes, travel schedules and profit margin.
- Managed and executed multiple water minimisation studies for oil refiners (Spain, Romania, China, Mexico, Germany). As part of these, Gert-Jan pioneered a new approach to water usage benchmarking and minimisation in oil refineries.
- Development, implementation and support of an advanced on-line steam system optimiser for Turkish refiner.
- Total Site energy reduction and HydrogenPinch project for Italian refiner.
- Developed on-line steam system optimisers for Japanese refiner and Petrochemical complex (see literature reference 2).
- Strategic Energy Review for South-Korean refiner.
- Also worked in petrochem, food&drink, pulp&paper, specialty chemicals.

Development work included:

- Ongoing product technology management and support of WaterTracker software for analysis of industrial water networks.
- Psychrometric calculations add-in for Microsoft Excel.
- Heat exchanger rating software.

1995 – 2002 **Senior Engineer**   Linnhoff March International Ltd

- Consultant in energy, hydrogen and water minimisation projects in a variety of industries worldwide.
- Lead developer of commercial WaterTracker™ software.
- Responsible for development and maintenance of all training course materials.

Publications

- "Steaming Ahead", Hydrocarbon Engineering, Nov. 2012 (lead co-author)
- "Refinery Water Management", Petroleum Technology Quarterly, Q4-2008, pp. 47-52.
- "Make the most of it", The Chemical Engineer, Dec.'07 - Jan.'08, pp 34-36.
- 1997-2004: Co-author of various articles on water- and energy-pinch technology.
- "Heuristic Synthesis and Shortcut Design of Separation Processes using Residue Curve Maps: A Review", with Y.A. Liu, Ind. Eng. Chem. Res. 1994, pp. 2505-2522.

Education

1992 – 94   MSc, Chemical Engineering
Virginia Polytechnic Institute and State University, USA

1986 – 92   Engineer of Chemical Technology (MSc)
University of Twente, Enschede, Netherlands
incl. international and research internships with Shell (3 months each)

Other

Winner of Honeywell Futurist Competition 1990: full scholarship for year of study in USA.