



PUBLISHER

David H. Colby
(212) 591-7125
davec@aiche.org

EDITOR-IN-CHIEF

Kristine Chin
(212) 591-7662
krisc@aiche.org

TECHNICAL EDITOR

Cynthia Fabian Mascone
(212) 591-7343
cynfm@aiche.org

ASSOCIATE EDITOR

Rich Greene
(212) 591-8677
richg@aiche.org

ASSISTANT EDITOR

Karen Simpson
(212) 591-7337
kares@aiche.org

ART DIRECTOR

Fran Fresquez
(212) 591-8669
franf@aiche.org

**PRODUCTION
COORDINATOR**

Andrew Triana
(212) 591-7987
andrt@aiche.org

INTERN

Danielle Deutsch
(212) 591-7317
danid@aiche.org

CONTRIBUTING EDITORS

Tom Noble
John Bowman

WASHINGTON EDITOR

Darlene Schuster
(202) 962-8690
dc@aiche.org

REGULATORY EDITOR

William A. Shirley
(888) 674-2529
envtlaw@earthlink.net

PATENT LAW EDITOR

M. Henry Heines
(415) 576-0200
mhh@townsend.com

SOFTWARE EDITOR

Roy V. Hughson
rhughson@pipeline.com

COPY EDITOR

Arthur Baulch
(212) 591-7377
arthb@aiche.org

**CLASSIFIED
ADVERTISING**

Daniel A. Johnson
(212) 591-7683
dani@aiiche.org

AIChE

AMERICAN INSTITUTE OF
CHEMICAL ENGINEERS

THREE PARK AVENUE
NEW YORK, NY 10016-5991
www.aiche.org

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EXECUTIVE DIRECTOR

John Sofranko
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GROUP PUBLISHER

Stephen R. Smith
steps@aiche.org



Editorial



The IT Revolution

Many of the improvements in productivity and efficiency can be attributed to the information technology (IT) revolution. It has, and will continue to, make sweeping changes to the way the chemical process industries operate. In this issue of *CEP*, two articles focus on the benefits of IT, while another offers a solution to a common IT problem.

On page 72, Charles Gillard of Verticore Technologies discusses the benefits of workflow modeling and automation. The goal — increased employee productivity. Thinking along the same lines is the article by EM-Assist's Peter J. Stoll (pp. 42–45), which focuses on computer-based training (CBT) for environmental compliance. The traditional method of learning has been the instructor-classroom scenario, which may be effective, but can result in ineffective use of an employee's time. This can lead to costly downtime. Instead, CBT offers a more flexible schedule. It enables employees to learn anytime and anywhere a computer and the appropriate software is available. In some instances, training can even be done via the Internet, in which case, all that is needed is a computer and a standard Internet browser. CBT also allows individuals to learn at their own pace, relieving any pressure of keeping up with the classroom pace.

However, keep in mind that CBT software is just a tool. In order for students to retain the necessary knowledge, the program must be interactive and interesting. Stoll offers words of advice on how to make the CBT learning experience more fulfilling. He writes, "... one of the reasons CBT is considered to be so effective is that it can provide a logical flow of information in an interesting and artistic setting. However, don't get too fancy. Strive for a balance somewhere between sensational and boring."

While automation undoubtedly has great potential benefits, there is a downside — technical difficulties. A classic problem has been getting data from plant-floor systems, such as distributed control systems (DCS) to agree with those in accounting, particularly data from enterprise resource planning (ERP) systems. The focal point of the problem has been that data acquired at the plant-floor level tend to be continuous, while those found in accounting systems are often discrete (or transactional).

The article by Brian Harkins and Karen Mills, both from AspenTech, offer a solution to this data-discrepancy dilemma — a hybrid object-oriented/rule-based algorithm that allows the best of both worlds, classification and specialization of refinery and chemical plant equipment, and discrete event flow transactions (pp. 58–64). According to the authors, "Compared to other statistical data reconciliation approaches, this method can more correctly calculate unmeasured stream flows and detect and isolate exact sources of gross error." The tangible benefits are already being realized at one plant, which is estimated to be saving a net of \$3.2 million.

Kristine Chin
Editor-in-Chief
krisc@aiche.org