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The International Association of Certified Practicing Engineers is a partnership of academics, practical engineers and those striving to increase their knowledge and boost their career.

The goal is to build an organization that would validate a candidates' engineering fundamentals, prove their individuals skills, and enhance their networking ability.

Rating Process Simulation Programs

In the October 2017 Engineering Practice Magazine we published an article that rated different Process Simulation Programs.

There was a great team of six people that volunteered to rate each of the programs.



The Team of reviewers was a distinguished volunteer group

- 1. Timothy M Zygula**
- 2. Prathamesh Deshpande**
- 3. Dominic C Y Foo**
- 4. Mark Brantana**
- 5. Tushar Madhukar Kameronkar**
- 6. Karl Kolmetz**

Rating Process Simulation Programs



We reviewed nine different programs and we invited the companies to participate in the review.

- 1. Aspen / Hysys**
- 2. BRE ProMax**
- 3. CHEMCAD**
- 4. ProSim**
- 5. ProTreat**
- 6. PRO II**
- 7. PSE - gProms**
- 8. Uni Sim**
- 9. VMG Sim**

Rating Process Simulation Programs

We were honored that five of the companies chose to participate in the review. Their participation greatly improved the review.

- 1. CHEMCAD**
- 2. PRO II**
- 3. Sim Central**
- 4. PSE - gProms**
- 5. VMG Sim**

You should go to the web site and read their contributions in the Oct 2017 Issue;

www.iacpe.com/magazine

Rating Process Simulation Programs

We choose ten questions for each of the companies to answer. You should review their answers in the article – they gave some great answers.

We also asked the team of volunteers to comment on the questions and then to rate each of the companies 1 to 10 stars for each of the questions.

The volunteers were kept anonymous as to their answers and ratings.

Rating Process Simulation Programs

1. Ease of Software Utilization

To determine ease of software utilization, the same simulation case will be solved by an advanced and intermediate user. The chosen case is a benzene and toluene tower.

Rating Process Simulation Programs

2. Interactive or Batch Run Program

There are two types of Simulation Software run styles. The first is interactive, which solves each unit operation when the degrees of freedom are met.

The second is a batch type program which requires the user to input the data and then start the program to run.

Rating Process Simulation Programs

3. Heat Transfer Limitations

Most simulations are mass transfer limited. How does your process simulation tool address heat transfer limitations as compared to mass transfer limitations?

We wrote a paper, “Design Guidelines for Ethylene Quench Towers” which explains heat transfer limitations.

Rating Process Simulation Programs

4. Natural Gas Processing Polar Solvents

How does your process simulation tool address Natural Gas Sweetening Processes such as amines, glycols and other polar solvents?

Rating Process Simulation Programs

5. Recycle Steams Clamping

How does your process simulation tool address recycle streams?

Some programs have no clamping on the recycle streams allowing them to cycle to very large numbers.

Some programs have recycle models and other programs allow any stream to be designated as a recycle stream and clamped.

Rating Process Simulation Programs

6. Equipment Sizing Interface

How does your process simulation tool address tray and packing ratings?

How does your process simulation tool address heat exchangers?

Does your tool build equipment data sheets?

Rating Process Simulation Programs

7. Best Unit Operation - Unique Advantage - User Valued Feature

What is your process simulation tools best unit operation / process?

What is your best area of utilization?

What is your process simulation tool industry advantage?

What features of your software do your users find most valuable, compared to other soft-ware?

Rating Process Simulation Programs

8. Technical Support and Training

How do you add value in technical support and training?

Rating Process Simulation Programs

9. Third Party Applications

How does your software utilize third party applications?

Rating Process Simulation Programs

10. Graphical User Interface

**Rate the software Graphical User Interface
– rate one to ten.**

**Send a picture of your Graphical Interface
for ranking of volunteers.**

Rating Process Simulation Programs

We only rated programs where at least two of the team members were able to rate the programs.

Therefore we were able to rate;

- 1. Aspen / Hysys**
- 2. BRE ProMax**
- 3. CHEMCAD**
- 4. PRO II**
- 5. Uni Sim**

Rating Process Simulation Programs

Volunteer Panel Review

The Volunteers rated most of the companies similar in scoring

Company	Avg Score	Advantage (Highest Rated Question)
Aspen / Hysys	5.20	Question 6 – Equipment Sizing
BRE ProMax	5.80	Question 4 – Gas Processing
CHEMCAD	5.60	Question 8 – Technical Support
PRO II	5.60	Question 8 – Technical Support
UniSim	5.57	Question 9 – Third Party App

Rating Process Simulation Programs

One category where there was a difference, was in the time to complete a simulation - some were as much one third faster than the others.

We encourage you to review the complete article. Feel free to review all of the magazine issues listed, but the Simulation Review is in the Oct 2017 Issue.

www.iacpe.com/magazine

Rating Process Simulation Programs

Our highest thanks go out to the companies that responded to the questionnaire, and the reviewers that volunteered to assist in this technology review.

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