

A DAY IN THE LIFE OF A CHEMICAL ENGINEER – Engineering & Construction

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AIChE SPTC 2016 – Student Session



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Best advice for ChemE's...

Regardless of where you end up, keep this in mind:

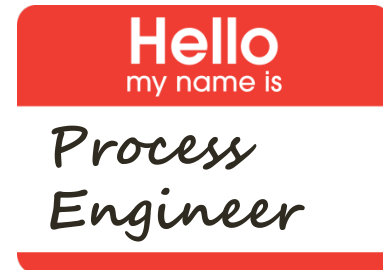
1. *Be flexible and adaptive to change.*
2. *Ask questions.*
3. *Challenge everything.*



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Transitioning into the real world...

- So you've graduated (or close to)...now what?
 - Wait, what does an engineer do anyway?
 - Solve technical problems safely and efficiently to improve lives.
 - More importantly, we turn ideas into **\$\$\$\$\$\$!**
 - You are now a 'Process Engineer' ...
 - Time to get paid for that brain!
 - Job searching? Starting a job? Vacation?
 - Operating, Design, Consulting, R&D
 - Life, in general...
 - Steady, more predictable schedule
 - Nostalgia for "college atmosphere"
 - Start thinking of other "grown-up" things like retirement, insurance, taxes



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Day-to-day for Process Engineer

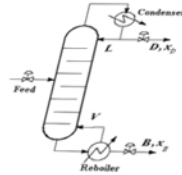
- Significant role throughout the course of a project
 - Go-to Team: conceptualize, design, troubleshoot
- Perform calculations...lots of calculations...
 - ✓ Process flow and optimization
 - ✓ Process simulation
 - ✓ Heat and material balances
 - ✓ Process drawings
 - ✓ Equipment specification
 - ✓ Line sizing and hydraulics
 - ✓ Instrumentation specification
 - ✓ Process safety reviews
 - ✓ Relief scenario analysis
 - ✓ Unit summaries
 - ✓ Technical support for other disciplines
 - ✓ Client interaction
 - ✓ “Data detective”
- Travel, initiatives, and other fun activities.

****Your mileage may vary****



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“E&C Engineer At Work”

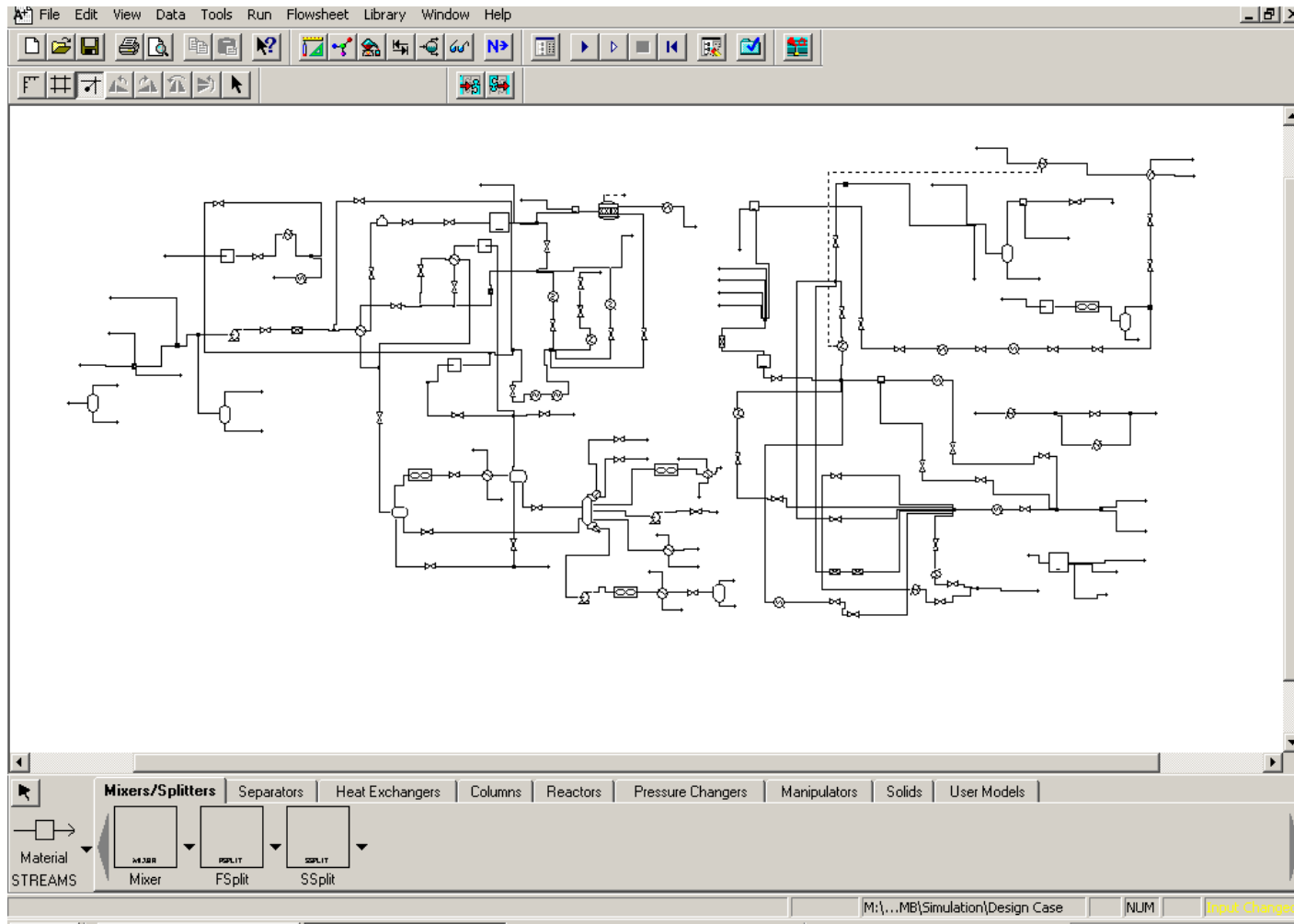


**KEEP
CALM**
I'm a
**CHEMICAL
ENGINEER**



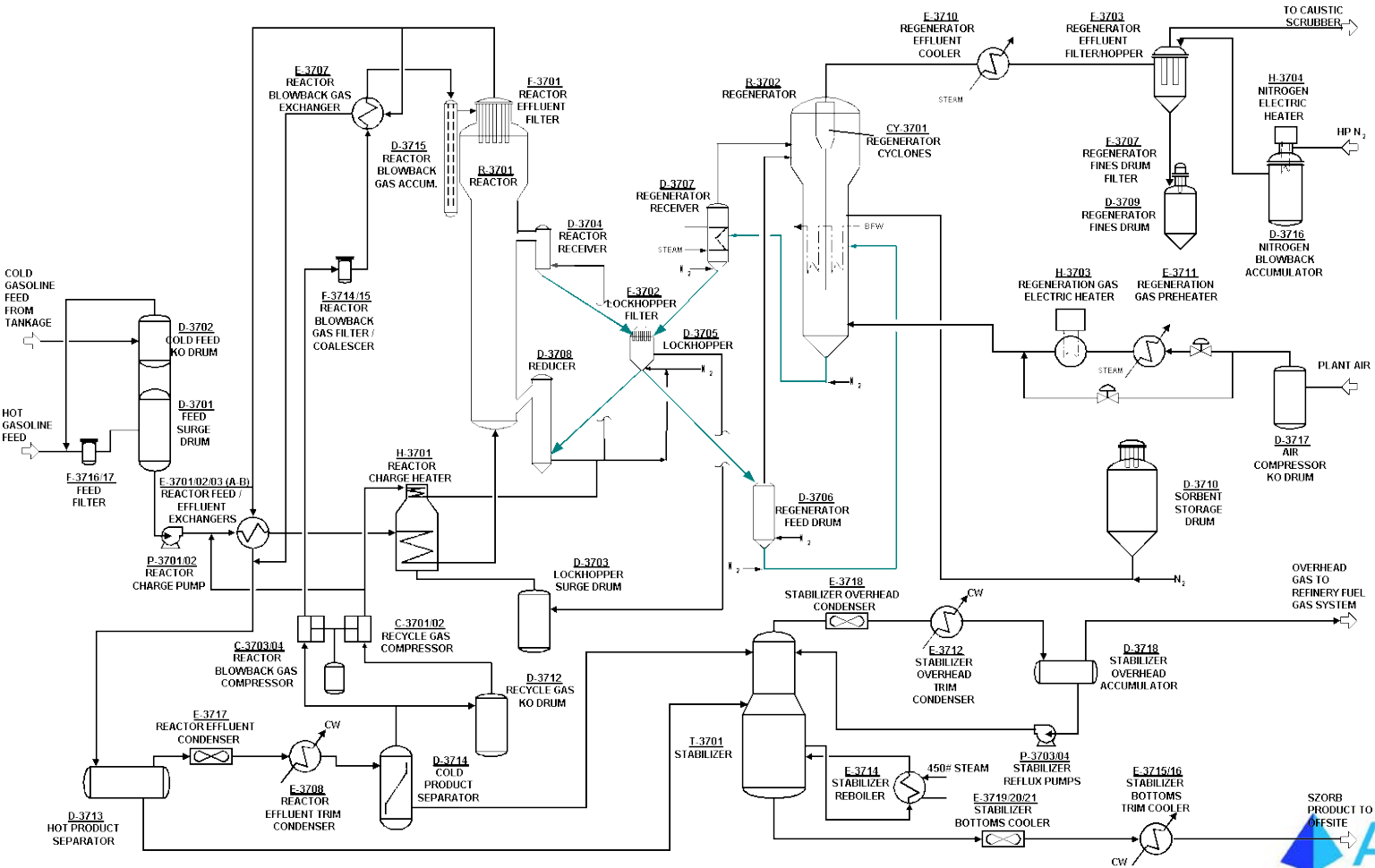
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It starts with an idea...



Process Simulation

...and it starts taking shape...

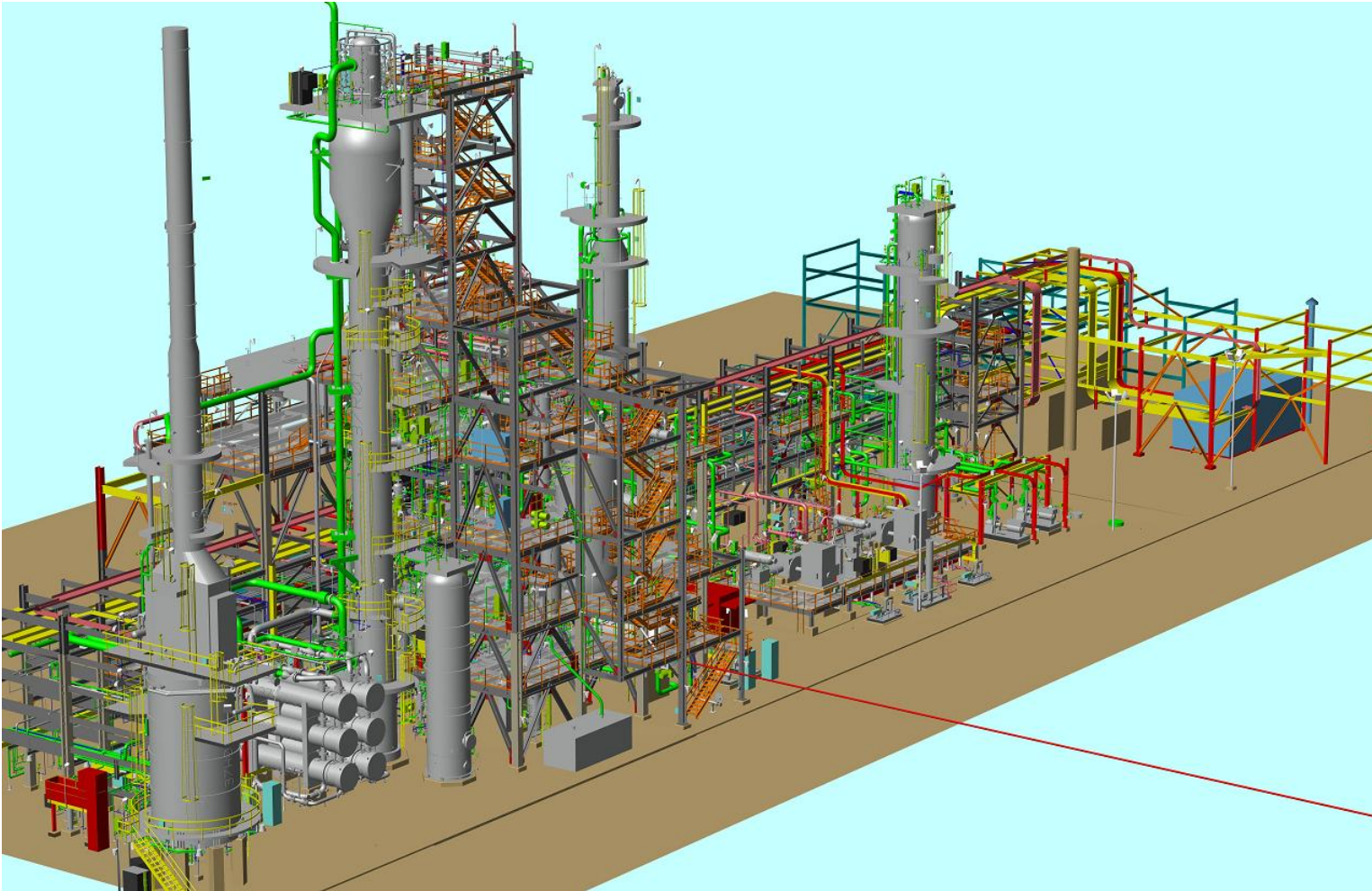


Process Flow Diagram



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...a few more details...



3D Model



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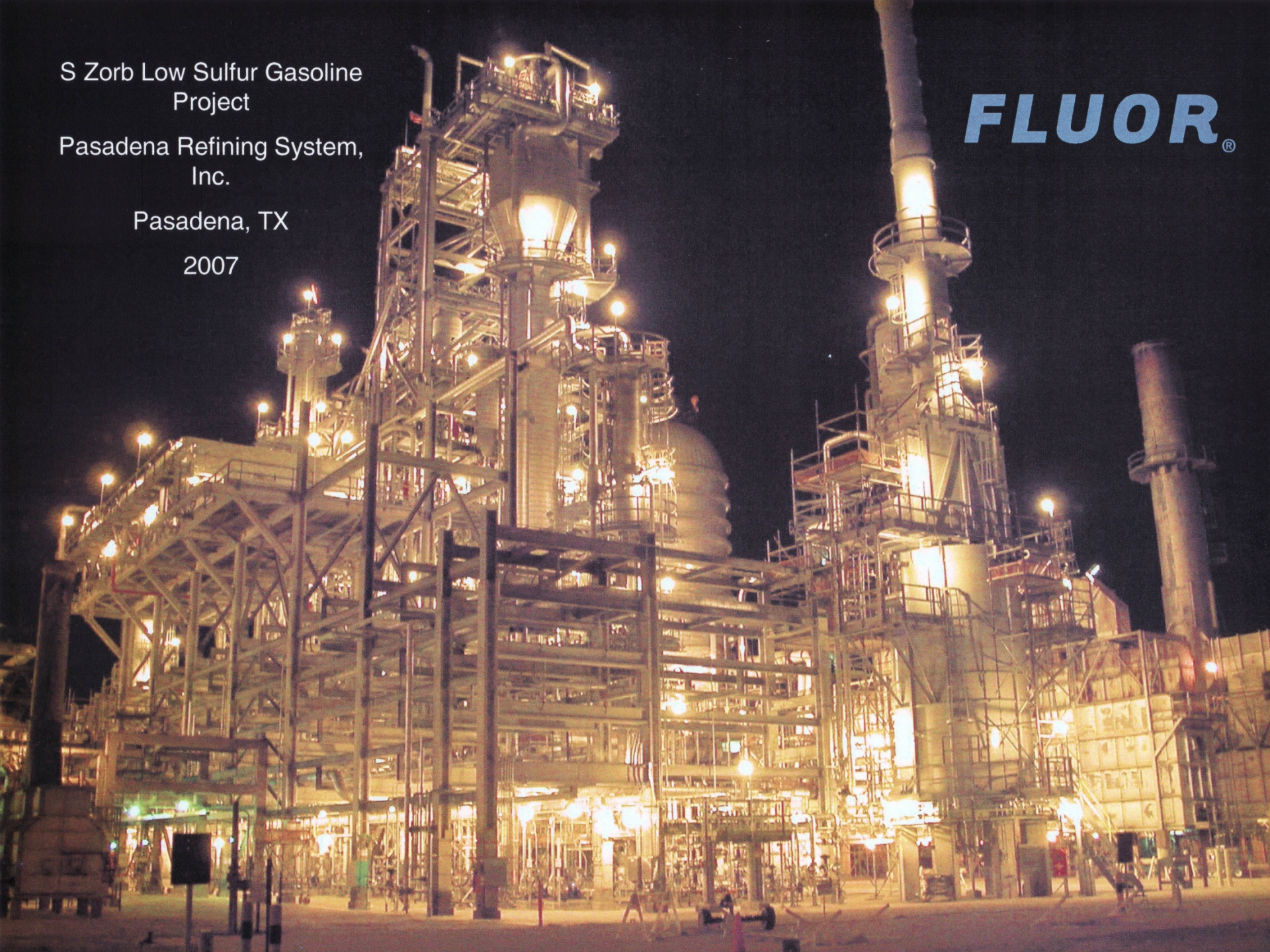
S Zorb Low Sulfur Gasoline
Project

Pasadena Refining System,
Inc.

Pasadena, TX

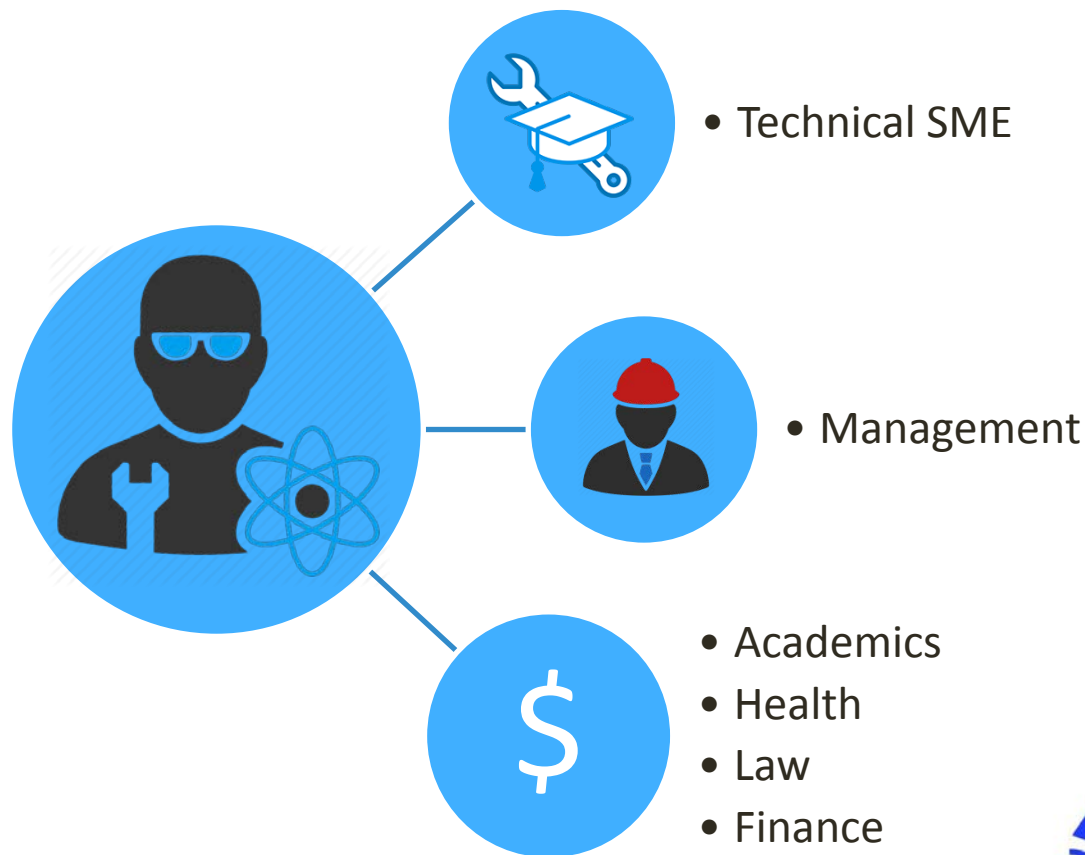
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Career paths for a ChemE's

- Honestly, your options are almost endless!



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But don't forget to have some fun...for your sanity!

- Stay active and involved, both inside and outside of work!



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Survival tips



- Be organized, be disciplined, stay on task.
- Stay mindful of the future position you want.
- If you run into a problem, always offer a solution first.
- Sharpen communication skills.
- No inhibitions – ask about designs and decisions made.
- Adapt to change; be flexible; there's not just "one" answer.
- Step up to challenges...and menial tasks.
- Make your supervisors look good.
- Learn something else besides Chemical Engineering.
- See the forest and the trees.
- Be humble, respectful, and responsible.
- Provide value to your client.
- Take vacations, find a hobby, save for rainy days.
- Be a good ambassador for Process Engineers.



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Thank you!



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