Top 10 Technologies for 2011

The Chem.Info editors are constantly on the lookout for emerging technologies. We put our heads together and came up with what we think are the most promising developments in the areas of:

Secure Storage & Transport **[1]**

New Reasons for Old Technology: Chemical Facilities Anti-Terrorism Standards breed stricter regulation of the storage and transport of certain chemicals, thus spurring industrial use of security equipment.

Bioprocessing **[2]**

Big Molecules, Fast Purification: Continuous chromatography could be the key to more efficient large-scale production of complex biopharmaceuticals.

Biofuels Production **[3]**

Food ~~Versus~~ *AND* Fuel: With advanced refining and gasification techniques, SynGest aims to turn corn-ethanol plants into food, fuel and fertilizer factories.

Carbon Capture & Sequestration **[4]**

Erasing Carbon a Project at a Time: It may seem like just a buzzword, but carbon capture and sequestration is already making headway when it comes to dedicated resources and advancing technology.

Heat Exchanger Efficiency **[5]**

Composition Trends Drive Heat Exchanger Efficiency: Smaller footprints, greater pressure capacities lead to better material specifications.

Nuclear Reactors **[6]**

A Nuclear Powerhouse: The Westinghouse AP1000 nuclear reactor is safer, more powerful, easier to maintain and less expensive to construct.

Water Recycling & Reuse **[7]**

Cradle-to-Grave H2O Management: FracPure™ water treatment solves the natural gas industry's problems of providing hydraulic fracturing water supplies and wastewater management—cradle to grave.

Inherently Safer Technologies **[8]**

On-Site Chlorine Production: Large-scale manufacturing, storage and transportation of dangerous chemicals can be avoided through the use of on-site chemical generators.

Wireless Controls **[9]**

Wireless—It's Under Control: Using wireless data and automating PID loop closure can help better control operations.

Modular Equipment **[10]**

All the Right Pieces: Modular production systems have gone past just Lego-like pieces of equipment or construction plans, and into the very fabric of many processing plant's design for growth.

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