

Making the grade safely

The world consumes a billion gallons of gasoline every day. Given this staggering figure, it is little wonder that refiners are constantly looking for cleaner and safer ways to make motor fuels that address environmental concerns and the move to stricter emission controls.

In partnership with Akzo Nobel and Fortum Oil and Gas, ABB has found a safer and better way to make alkylate, the key ingredient in gasoline.

Called AlkyClean, the process relies on a new solid acid catalyst which is environmentally benign, eliminating a heavy oil byproduct called acid soluble oil that can be difficult to recover and dispose of.

In addition, the process eliminates a public safety hazard associated with liquid acids. For that reason, Rune Strömquist, ABB's technology manager in this area, has called it, "the achievement of the year" in oil and gas research.

To date, liquid acid has been the only means of creating a clean-enough fuel. And this acid has to be transported to the refinery – a hazardous business.

By contrast, the solid acid is transported to the refinery in plastic bags, "and creates equally good fuel at an equal cost, but without any of these dangers to people and the environment."

Recognition by Wall Street Journal Europe

This is now being demonstrated to potential customers at facilities in Porvoo, Finland, and has met with international recognition as runner-up in the Environment category of the Wall Street Journal Europe's 2002 innovation awards. The technology is expected to go to market by 2005.



AlkyClean demonstration unit in Finland

Philip Angevine, manager of the Ultra-Clean Fuels program at ABB Lummus Global, comments: "It generates gasoline of the highest quality. Moreover, this robust process is reliable, no unnecessary byproducts are produced, and plant investment is considerably lower than with the old technology."

ABB Lummus Global supplies the solid catalyst, which is being manufactured by partner Akzo Nobel.

The catalyst is coupled with a novel alkylation reaction system to rule out acid leachate. ABB doesn't produce

reactors, but is selling a license to use its patented process for reactors.

An engineering design package includes drawings and all the 'how-to's' of set-up and operation. But ABB will also stay on the job as technical consultant through the life cycle of the plant. ABB could even build the alkylate plant.

It is expected that the new alkylate will gain market share as refineries update their systems to meet environmental regulations for fuels over the next five to ten years. There are more than 700 alkylation units around the world with about 170 alkylation units, mainly in North America.

Aspect Object Viewer software released for external distribution

Today, most ABB products are Industrial IT Level 0 certified, meaning that information on a product is collected and stored in an electronic format known as an AFW file (see panel).

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Aspect
Object
Viewer

(AOV) is free software that lets the user view these AFW files without having Aspect Integrator Platform (AIP) software installed.

This very compact, approx 8-MB program permits AFW files to be viewed

Inform^{IT} Aspect Object Viewer

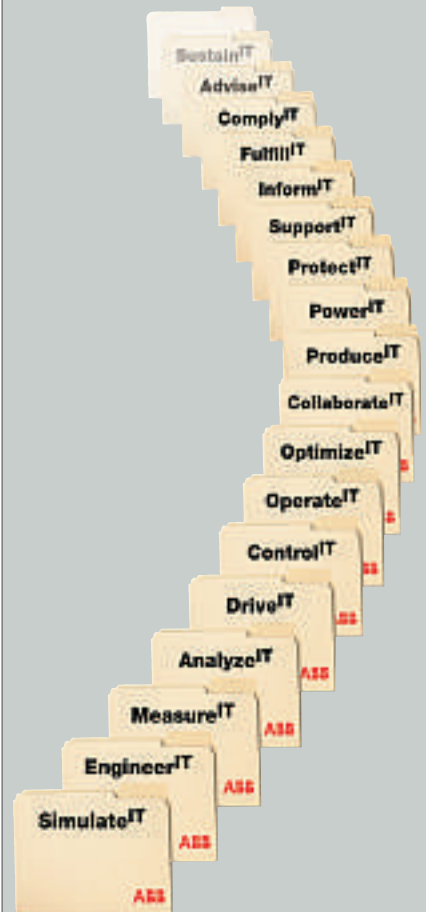
using navigation methods very similar to the Aspect Integrator Platform (AIP) Plant Explorer, but operates fully independently of AIP software as a 'light' viewing tool.

AOV is not only small and simple, it also has the look and feel of the AIP Plant Explorer and can run with or without the Aspect Integrator Platform. It is able to handle more

than one AFW file and supports viewing of all Level 0 Certification aspects. It will even work if the information contained in an AFW file is not complete.

About AFW files

AFW stands for Aspect Frame Work. It is a general term describing ABB's software technology that is used to implement the Aspect Integrator Platform (AIP).



In the context of file types, the .afw extension of an AFW file denotes a proprietary file format that is designed to encapsulate Aspect Objects for use in distributing product information (Level 0 Enabled products), ie data is bundled in an electronic format. The information provided can be of any kind handled by aspects in AIP, such as program, document, picture or CAD files, web links or even data in attribute form

