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*“A World of Plastics Information”*

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TWELFTH YEAR

Dear Colleague:

Uncertainty underscores universal understanding ...Europe's and U.S.'s current economic woes certainly highlight the fragility of the global economy and more importantly how to manage our businesses in the future. Just having experienced the deficit debate (we call *deficti*), to emphasize the dysfunctional and dyslexic political aspect), more caution signals abound. Despite raking in robust profits and sitting on cash, big corporations and financial institutions are reluctant to lend and their customers are reluctant to spend. Therein lies the dilemma of the next 12-18 months in the global economic picture...an era akin to Japan's lost decade could be ushered in for the U.S. and Europe. Pernicious recession, stagnant growth – even stagflation could await us. However, the scenario is just beginning and some wise economic sages hopefully will begin to influence many nation's leaders.

Some key raw materials prices should fall in 2012, led by the lifting of China's export restrictions on bauxite, magnesium and other minerals used in steel and chemical production. It could be followed by rare earth minerals used in technology products such as smart phones and wind turbines. The technology sector continues to fuel growth across borders, with computer memory (“phase-change”) 100 times faster than flash memory coming soon. Super fast wireless networks (one-gigabit-per-second) in 2012 will end need for hardwiring. Also look for eyeglasses that double as computer display screens, similar to “heads-up” displays). All told, a bright spot globally as technology continues its innovative growth and influence on most businesses.

Output of natural gas liquids (NGL) is surging, which is a boon for the petrochemical industry...uses NGL to extract ethylene to produce much of our thermoplastic resins. Its butane component, when blended with crude oil, effectively boosts daily oil production for motor fuel.

Cost of doing business in China is up, especially wages which are climbing double digits – effects much of the plastic products they export. In addition there is a growing trend to curtail imports from Asia, as domestic producers continue to trim costs in order to be competitive...on specialty products, not commodities, that continue to defy inflation and use increased capacity to keep prices depressed in order to attract discretionary demand. Meanwhile low carbon footprint products continue to drive demand in many markets and products, such as PET.

**TRENDS:** Biopolymers (PLA) blended (20%) with PMMA have produced Plexiglas *R New*, which exhibits impact strength equal to that of PETG...introduced by Arkema's Altuglas unit. The 2011 European Plastic Industry Award finalists have been announced...Sabic IP is one and there are six companies vying for the winner in Best Environmental Program - the complete list is at: <http://www.prw.com>. Manufacturing leaders in key industries and the *Industry Week* IW U.S. 500 lists are out and are great prospecting tool for our industry...check out at : <http://www.industryweek.com>. A helpful thermoplastic materials selection guide for thermoforming is available from India's *Popular Plastics and Packaging* July, 2011 issue. A new adhesive, PMMA based, is being used to bond spinal fractures...called *Kyphon Xpede* from Medtronic. A transparent car made entirely of Plexiglas is auctioned for \$500,000 in Michigan.

## **OUTLOOK EUROPE: by Ralph Ammann, our special European correspondent in Germany**

The new QuickSwitch system of KraussMaffei Berstorff for pipes attracts wide interest on the market. A Belgian customer ordered two complete plants for the diameter ranges 25mm to 63mm and 70mm to 160mm. The German branch of one of the world's largest pipe producers acquired a complete line as well, for the production of three-ply pipes in the diameter range of 160mm to 250mm. The flexible system according to information allows manufacturers to change dimensions of a pipe within only a few minutes at the push of a button. The heart of the system is a calibrating basket with which the whole plant can be adjusted to the new pipe dimension quickly and easily. The system is suitable for the production of polyolefin pipes in the diameter ranges of 25mm to 250mm. In the field of PVC pipes, it is suitable for the diameter range of 75mm to 160mm. Wavin, the globe's leading plastic pipe company sold its French subsidiary Kulker SAS to the French company RYB at an undisclosed price. Also at an undisclosed price, Saco Polymers purchased the British Compounder AEI Compounds Ltd. from Sandwich. The merger shall lead the company to a leading position on the global market for crosslinkable polymers and compounds for pipes and cables. AEI Compounds operates in Europe, Africa, in the Middle East and Asia, whereas the parent company operates on the North American market. At the Interplas Fair at Birmingham next month, the German manufacturer Ferromatik Milacron will introduce one model of its modular F series for the manufacturing of products from plastic rods. It is the F 80 with a clamp force of 800 kN and an Advanced Performance (AP) 40 injection unit with an injection rate of 500 mm/s and a screw length with L/D 22. The internal distance between tie bars is 470 mm x 470 mm. Using a 64-cavity mold from Schöttli it produces syringe guards with a cycle time of 5.8 seconds. The molded parts are transferred by an Air-Move-System from Trio-Technik into a carousel box filling unit. The machine on show is a hybrid machine with electric drives for clamping, ejection, and plasticizing. Injection proceeds via a powerful hydraulic accumulator. At its site in Nufringen, Germany, the Ensinger Group invested in an extension building, which shall dovetail the production of semi-finished products and logistics. Inlet and outlet of goods will be automated. In-house transports will be carried out faster and more effective. The existing production area will be extended by an automatic high-bay warehouse for rod and bar material in silo construction. The completion is scheduled for summer 2012.

## **OUTLOOK ASIA: by Mal Binnie, our Pacific Rim correspondent in Australia**

Sales in Australia continued to strengthen in July with reports from many plastics distributors of continued growth. The Australian dollar reached a high of 1.10 to the US\$. The economy is again suffering from the problems in the USA with the share markets down, building market stagnant and low confidence in the Government. All of these issues reflect problems ahead for the Plastics Industry. EPlas celebrated their 30th Anniversary 1 July 2011 and congratulations go to Eric Marshall and his team. Dotmar are going through changes with Dennis Matulin (ex CEO) now departing and believed to be starting an Engineering Plastics operation, in addition they have lost Scott Foster, Paul McCrossen and other personnel. These movements could see changes at the other established suppliers. It is reported that the new COO for Dotmar is Mr. Kevin Stainer. The mining Industry will be on display at AIMEX to be held in Sydney 6-9 September 2011. Alan Sanders has parted from Thermotec and set up Architectural Building Elements Pty Ltd as sole importer and distributor for Australia of RODECA range of translucent polycarbonate facades and roofing systems. Before Thermotec Alan spent many years as the GE Polycarbonate sheet and film representative for Australia and New Zealand. Arnold Mouw (ex Mulford) has now settled into his position as MD for Dayco Australia. There is a move in Australia for firms to invest in more automated systems so as to minimise labour costs to compete against cheaper imports.

With China's 5-year plan calling for 7% growth in the economy and costs being controlled the Chinese industry continues to provide stimulus for the plastics industry worldwide. New openings in China include German Auto parts maker ElringKlinger AG, also Nissei Plastic Ind., Nagamo, Japan, opening a service office in Wuhan. Ineos has a deal with Petro China to form trading and refining joint ventures and German Auto parts Huf Group has opened a new factory in Changchun. Final reports on Chinaplas 2011 confirmed a growth of 15% in visitors over 2010 of which 20% came from overseas. Suzhou Hipro Polymers has reported continued growth of its Bio based nylons and the growth of Chinese Auto makers has been a significant market and this is also a contributor to the expected rise of 3% in the global nylon market. Sabic's new PC plant in Tianjin is expected to begin production in 2015. Sibur Russia through its Shanghai based Citco Plastics plans to increase sales by 20% and Yangzhou Auto

Plastics parts has launched its first plant in Russia. Bayer MaterialScience in its growth detailed in our July issue has stated its objectives to aid China improve life quality, conserve and generate energy, reduce emissions and develop energy efficient buildings. The continued growth in China's manufacturing abilities is clearly demonstrated by the Society of Plastics Engineers (SPE) awarding its Mold Maker of the Year 2011 to SYChu Chairman of Zhongshan Pacific Master Precision.

An Indian automotive supplier is acquiring a major share in one of Europe's largest plastics processors, Peguform GmbH. Indian Film supplier UFLEX is investing in a BOPP film line in the US, they already have overseas facilities in Mexico, Egypt and Dubai. Indian Customs has plans to impose anti dumping charges on PVC paste resin from China, Korea, Russia, Thailand, Malaysia and Taiwan. In July issue of *Popular Plastics and Packaging* magazine Mr. S. Rangarajan has listed some interesting "Do you Knows" on P53. Rajoo Engineers have sold and commissioned a 7 layer blown film line to SAHIN Plastics Turkey. Note: I received an interesting Newsletter from SAARCLAW, South Asian Association for Regional Cooperation in Law, this month and it contains some interesting articles. Vietnam's Thanh Tai Gas plans to have its complete PET recycling plant operating early 2012. Perstorp continues its HDI expansion in Singapore. Malaysian Plastics Manufacturers Assoc (MPMA) reported an increase in sales by the industry of 8.2% in the last year with exports increasing 15%. Solutia Inc is reported to be adding a PVB resin plant in Kuantan, Malaysia. DSM NV has acquired a majority stake in AGI Corp, Taiwan. Seoul based Samyong has completed a 10,000tonnes/year PC and PBT plant in Hungary, mainly for products to Samsung. Snogwon, Ulsan, Korea, has reported continued sales growth in China, India and Middle East.

**PRICING:** Commodity and Engineering resin prices are heading lower, led by PE, PP, PS, PVC PET...ABS and PC. Nylon prices, however, are up for now.

**MANUFACTURER/DISTRIBUTOR BRIEFS:** A.M. Castle's Total Plastics unit reports 2Q 2011 results... sales up 13%, year over year, to \$30 million. Automotive, Life Science and POP end-use markets' improved demand accounted for the increase. SABIC IP introduces a portfolio of PC resins into the Asian market. SABIC IP expands PC resin product line offering in Asia...produced in new plant in Saudi Arabia – parent Sabic Basic Industries Corp. also reports 2Q record profits. Bayer MaterialScience launches new medical grade PC...retains properties after gamma radiation. Also at Bayer, its anti scratch PC film (Makrofol® ID) wins awards in the security ID card sector; Sheffield name may morph into parent company umbrella name. Bayer AG reports in with flat sales in 2Q. Dow Chemical reports 2Q results with double-digit sales and profit results. Victrex introduces new lightweight PEEK extruded tube and pipe line – said to target oil and gas industry applications. Spartech stock continues to fall as company restructuring continues – new technology center opens, with emphasis on recycled sheet and film and thermoforming innovations. Recycled PET sheet from MicroGreen Polymers, called InCycle, continues to grow in sign and food contact applications. Lubrizol adds CPVC resin capacity.

#### **MERGERS, ACQUISITIONS, ALLIANCES, DIVESTITURES AND EXPANSIONS:**

Braskem of Brazil becomes leading PP resin producer in North America with its acquisition (US\$323 million) of Dow's plants in U.S. and Germany – capacity of 2.3 billion pounds. Sabic IP boosts capacity of optical quality Lexan® PC film. Bilcare adds PETG film to its line. Rowmark buys Southtech Plastics, producer of decorative thermoplastic sheet. Pexco, custom sheet extruder acquires custom profile extruder, AllWest Plastics, who specializes in products for the lighting and aerospace industries. Dow and Aramco sign \$20 billion JV in Saudi Arabia to produce more than 3 million metric tons of value added products, including performance plastics.

#### **INDUSTRY INTERVIEWS: concluding our interview with Rich Cort, Kydex LLC**

*Q. How will the thermoplastic sheet industry change in the next decade?*

A. Remaining competitive and relevant in an increasingly global marketplace will continue to drive change in our industry. For example, because of lower tooling costs from off-shore sources, the injection and structural foam molding processes have become more economically viable at lower quantities and has begun entering more into

the market space for smaller thermoformed parts. As a result, some thermoforming companies have begun to purchase thermoforming machines that can make larger parts which remain too expensive for injection molding. In return, there will be an increasing need for larger sheet capability from the plastic sheet manufacturers.

I also believe that we will see some market consolidation amongst the thermoforming companies because of overcapacity and the expense of providing sophisticated engineering services. Engineering design assistance and support is being requested more often as OEM's consider switching away from fiberglass and metal components to thermoplastic components because of weight, environmental and cost benefits. OEM's are also moving toward purchasing 'assemblies' or 'kits' that they can 'plug' into their manufacturing processes. Thermoformers that can provide these value-added services will become increasingly more attractive. The majority of thermoformers are small companies with less than \$10 million in sales.

Fast customization will become more the norm. Modifying a polymer or providing a multi-layered sheet to get specific properties, or the ability to provide design elements, such as color, texture and gloss, will become expected by our customers.

*Q. How do you see our industry changing by the end of this decade?*

A. Increasing demand for more sophisticated products in emerging markets will drive change in our industry. Global manufacturers, such as GE Healthcare, are following this growth and have already established a presence in these markets. Products previously only made in North America are now being made offshore. However, in many instances, local suppliers in these countries still do not have the expertise and capability to meet the technical requirements of these global companies. This creates opportunities for plastic manufacturers, especially in niche markets, who will need to find ways to logistically support these global companies through a supply chain network or establish new manufacturing sites themselves.

Demand for plastic materials that inhibit flame spread and generate low smoke with little or no toxicity during fires will be increasingly important as fire safety regulatory requirements in transportation and build products become more stringent.

Environmental initiatives will also continue to drive change in our industry. Hazardous materials will be restricted and plastic manufacturers will need to adjust their products and portfolios for compliance and to maintain their market position. Some plastics that are widely used will become banned and replacement plastics will be too costly which may encourage a relook at non-plastic alternatives. The ability to recycle thermoplastic parts as they are removed from service will be important if we are to realize the full benefits of using thermoplastics versus alternative materials. For example, passenger rail car interiors are typically made with fiberglass composite parts. These parts usually end up in landfill after their service life. Thermoplastic parts can be recycled back into the industrial stream more easily after the interior parts are removed. I foresee more applications being designed for thermoplastic part recyclability.

*Q. On a personal note, what do you consider your greatest achievement?*

A. When I reflect on the challenges many American companies have faced over the last decade or more, particularly manufacturing companies, I feel very good about contributing to the growth of KYDEX, LLC. We had six employees when I joined the company in 1990 and now we employ over 160 people who can provide for their families and themselves.

*Q. If you could return to Pennsylvania as someone else who would it be?*

A. Ben Franklin would be my choice. What a legacy to be considered one of the Founding Fathers of our great nation. Other than that, maybe Punxsutawney Phil because the shadow he casts looms large for many.

Thank You.

*Information contained in this newsletter has been taken from trade and statistical sources that we consider reliable but we cannot assure its accuracy or completeness. Any opinions expressed reflect our judgement as of this date and are subject to change.*

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