



Mel Ettenson's GLOBAL PLASTICS LETTER

“A World of Plastics Information”

Part news. Part views.

OCTOBER-NOVEMBER-DECEMBER 2022 - 4Q ISSUE

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Dear Colleague:

Record revenue and profits keep reoccurring, inflation relevant. Economic growth is expected to be at 5-6% or higher for the balance of 2022. Reports received indicate many revenue records being broken, with profits following, due to easing supply chain issues and inflation. This, despite greater productivity led by automation in plants and offices and tempered by tariff conflicts.

It's email and email and more email on line in our industry, which has become the quoting and order entry systems platform. A multi million dollar (typically a \$8 million branch) operates with about 5-7 total employees including a Branch Manager...that's productivity!

TRENDS: Continuing entry into e-commerce by internet giants...now that Amazon, and perhaps Alibaba have discovered the BtoB market and can spell plastics. Amazon, with its Amazon Business service, featuring “hundreds of millions of products” including our industry. Additionally they offer free shipping on orders of \$49 or more and offer product information on their “Asking an Expert” page. This all started 10 years ago when they bought Small Parts Company. On line business buying is expected to grow 15-20% a year, so this all bears watching.

Trade fight began earlier this year when U.S. raised tariffs on Chinese goods and is threatening further levies at press time...including \$8 billion on Plastics and Rubber.

An LDPE film that can kill viruses (including SARS-Cov-2) using room lighting...self-sterilizing, low cost, first of its kind, developed by Queen's University in Ireland.

OUTLOOK EUROPE: by Ralph Amman, our EuroZone correspondent in Germany

The last edition of 2022 European newsletter is dedicated to the world's leading plastics trade fair, K, which was held in October in Dusseldorf, Germany. Leading companies of the industry showcased their new solutions and innovations. German based **Simona AG** launched their new “ISCC PLUS certified Pipes & Fittings” product line, which is based on the principle of mass balancing. Initially, the ISCC certified product line will be available for PE100 pipes and fittings. ISCC stands for International Sustainability and Carbon Certification. Comprised of international companies and NGOs, the ISCC organization provides certification for raw materials that comply with established sustainability regulations. As regards the three different ISCC sustainability categories, the group will initially be focusing on pellets of a bio-circular and circular origin, i.e., the pellets used for plastics production originate from biological waste, for example.

Additionally, the Germans have also come up with innovations within the area of digitalization – at least indirectly: after all, the digital monitoring of plastics, e.g., for various forms of piping, requires products with adequate monitoring capabilities. Simona has further extended its product portfolio in this regard. In this context, one of the solutions in this field is the PE 100 PSC RC-Line range of protective-jacket pipes, for example, which opens the possibility of continuous leakage monitoring by means of metal detectors fitted to the plastics.

Fellow German company **Evonik** presented some new key products in Dusseldorf. One sample is Vestamid eCO E40, a new sustainable high-performance plastic that is produced using only renewable energy and is 50 percent based on materials obtained from recycled end-of-life tires saving virgin raw materials and reducing carbon footprint compared to traditional Vestamid product by 42 percent. Also on show was Infinam® PA, a new sustainable grade of PA-12 powders with significantly reduced CO2 emissions for Powder Bed Fusion 3D printing technologies. TÜV Rheinland has certified the associated life cycle assessments, attesting to an improvement in the company's own carbon footprint of almost 50 percent. Finally, the new Tegomer® H-Si 6441 P provide flame protection to high-performance plastics applications such as PA, PBT or TPE, and improves the flowability of the highly filled plastic compounds used in e-mobility applications.

Furthermore, **AGC Chemicals Europe**, a leading manufacturer of fluoroplastics and the world's largest producer of ETFE (ethylene-tetrafluoroethylene copolymer) and ion exchange membranes, showcased new applications for functionalized fluoropolymers as well as further developments in PEEK compounds, fluoroelastomers and ion exchange membranes. The new Fluon +™ EA-2000 is particularly suitable to produce high-speed PCBs or Copper Cladded Laminates (CCL). The adhesive properties of the product make it possible to produce ultra-thin dielectric coatings on copper or other metals that have very low surface roughness. This enables extremely high data transfer rates as required for innovative technologies such as the mobile phone standard, 5G, or IoT (Internet of Things). The company's new fluoropolymer-modified PEEK compounds have improved flexibility, impact resistance, wear resistance and better electrical properties than standard grades. They are suitable to produce semi-finished products such as sheets, rods, and tubes, for gears, housings, wire and cable sheathing and foils. They can be processed by extrusion and injection molding.

Additionally, **Coperion** announced at the show that it is supplying a complete system for the chemical recycling of PMMA (polymethyl methacrylate) to Renov8, a subsidiary of Just Right® based in Jafza, Dubai, one of the leading manufacturers in plastics processing and manufacturing, specializing in sustainable solutions. The system for the chemical recycling of PMMA will be installed at the Kezad, Polymers Park in Abu Dhabi, which is among the most popular vertically integrated Polymers downstream manufacturing eco-systems in the region. It will thermally convert PMMA into liquid rMMA in a continuous process. The system includes material handling, two ARW discharge agitators with discharge screws and two Smart Weigh Belt (SWB) feeders, as well as a ZSK 92 Mc18 twin screw extruder with 92 mm screw diameter, a vacuum system, and a condenser. Key components of the system are produced in-house by Coperion.

The PMMA recycle is conveyed via a discharge agitator ARW and a discharge screw to a Smart Weigh Belt (SWB) feeder. This low-headroom gravimetric feeder weighs large quantities of bulk material at high accuracy and feeds it reliably into a ZSK twin screw extruder. In the ZSK Mc18 twin screw extruder a great deal of mechanical energy is quickly introduced into the PMMA via the co-rotating twin screws thanks to the very high torque of 18 Nm/cm³. The temperature of the melt rises very energy-efficiently in a very short time. The material depolymerizes. Gaseous MMA is produced, which is reliably extracted via the degassing domes of a vacuum system and then converted into liquid rMMA in a condenser. Coperion's solution for chemical recycling takes place with significantly lower energy consumption than pyrolysis processes without extruders or compared to recycling with single screw extruders.

Elsewhere, **BASF** presented a comprehensive product portfolio of selected engineering plastics and polyurethanes with a significantly reduced carbon footprint (PCF) at the K 2022 trade fair. This presentation included a range of Ultramid® A and B, Ultradur®, Ultraform®, Elastollan®, Elastopir® and Elastocool® families - all with PCF reductions of at least 30% compared to similar standard products while maintaining identical chemical and physical properties. Some lowPCF products, such as isocyanates, have a CO2e footprint close to zero.

Finally, during the show, EMS-Grivory was successful at the 21st SPE Automotive Award Night of the "Society of Plastics Engineers". The Swiss company was once again three times among the award winners. In the "New Mobility" category, the electric water pump with housing, connection covers and impeller made of various Grivory HT1 materials was awarded first place. The electric water pump from HELLA GmbH is used in the thermal management of electric and hybrid vehicles, where it pumps the coolant in the various heating and cooling circuits in an energy-saving manner. Also, an innovative electro pneumatic brake control module and a new center console support structure of the company won in their categories.

Besides the world leading trade show, German manufacturer Gehr, as part of an expert symposium and a staff party, celebrated the 90th company anniversary. On the factory premises in Mannheim, around 200 guests from five continents discussed important industry-specific topics as well as current economic and political issues with top-class speakers.

After former Chancellor Helmut Kohl and Hans Dietrich Genscher had been invited as speakers in previous years, this year Jean-Claude Juncker, former President of the European Commission, and Dr. Erwoan Pezron from **Arkema** and Alexandre Dangis from the **European Plastics Converters/EUPC** association were speakers at the event. One day later, the employee party was on the agenda, to which all employees, their families, friends and neighbours were invited. Many visitors took the opportunity to have employees show them the products in numerous guided tours.

PRICING:

Resin prices still dropping...downward trajectory expected to continue due to slowed demand, lower feedstock costs and ample supplies. PE, PP, PS,PET and especially PVC lead the drop,

MANUFACTURER/DISTRIBUTOR BRIEFS:

Sekisui Kydex, div Sekisui Chemical names Yoritaka Yamauchi as its new CEO.

Rochling emphasizing it's commitment to sustainable products at K 2022 in Dusseldorf.

Speaking of **K 2022**, 175,000 visitors, representing 157 countries, showed up (70% were from outside of Germany, including 105 U.S. exhibitors). K Trade fair lasted 8 days in October...next K scheduled for Oct. 8-15, 2025.

MERGERS, ACQUISITIONS, ALLIANCES, EXPANSIONS AND DIVESTITURES:

SABIC Functional Forms purported to be in talks to sell it's Lexan® sheet business to **Rohm**, financing could be provided by PE firm **Advent International**. PC sheet business could be a component of other SABIC – made (formerly GE Plastics) sheet and film products in play.

BREAKING NEWS:

Rohm GmbH, owned by Boston-based private PE firm, **Advent International**, has acquired the Functional Forms business of **SABIC** (Saudi Basic Industries Corp.). This adds Lexan PC sheet and film to Rohm's Plexiglas and Acrylite product line. Price was undisclosed but results in USD\$735 revenue and will close in early 2024.

INDUSTRY INTERVIEWS:

Editor's Note: Reprinted from Interview Archives and timely considering SABIC spin off.

Charlie Crew, President and CEO, SABIC Innovative Plastics. (First published May 2009)

Charlie previously held top management positions at the predecessor of Sabic Innovative Plastics, the former GE Plastics, including the GE Plastics sheet business in the 1980's. He also led LNP, Noryl, Valox, Cyclocac and most GE Plastics businesses. Charlie is a graduate of Villanova University. We interviewed him at his office in Pittsfield, Mass.

Q. It's been more than a year since GE Plastics changed to SABIC Innovative Plastics. What effect has this had on your company?

A. From day one, SABIC Innovative Plastics has had the full support of our parent company, SABIC. As you probably know, SABIC is number one in the global petrochemical industry. They value our business because we play an important role in their mission to become a larger and more diversified specialty company, and a bigger global player. By combining our outstanding legacy of innovation and portfolio of world-class engineering thermoplastic products – with the stability, and long-term commitment from SABIC – we are increasing our global competitiveness; improving the growth of our business and our customers' businesses; and continuing to deliver innovative, high-quality material solutions, including distribution of shapes.

Q. What have been some of the other key changes at SABIC Innovative Plastics as a result of the acquisition by SABIC?

A. In addition to increasing our global competitiveness, the acquisition has allowed us to focus even more intensely on meeting customer needs and bringing to bear our more than 75-year legacy of unequalled product innovation to help them succeed. SABIC's unyielding support is helping us continue to deliver even better higher performing products; significantly strengthening our global presence; and better positioning SABIC Innovative Plastics as a long-term partner

with our customers. Our parent believes strongly in our strategy of leading in the development of the most innovative plastics in the global marketplace, which is what we are doing.

Q. There's much talk about the green movement in business today. How has the recent initiative to "go green" affected your business? What is your strategy for biopolymers, if any?

A. SABIC Innovative Plastics' environmentally responsible solutions demonstrate our commitment to meeting environmental challenges and helping our customers grow their business and succeed. We generally look at "sustainability" holistically and are considering biopolymers side-by-side with a range of other eco solutions as we focus on the future. An excellent example is our Valox iQ* resin. Valox iQ products are made with polybutylene terephthalate (PBT)-resin derived from post-consumer plastic waste (discarded PET bottles), using a proprietary recycle process, giving it a carbon footprint that is 50 to 85 percent lower than other engineered thermoplastics. It also extends the useful life of a polyethylene terephthalate bottle to 20 years. Valox iQ resin consumes less energy and yields less carbon dioxide than traditional resins through its entire manufacturing process – from cradle to gate. We're now using the resin in a range of industries, including consumer electronics, computers, automotive, transportation and furniture. Valox iQ resin demonstrates SABIC Innovative Plastics' dedication to practical eco solutions that can help improve the environment (and our customers' success).

Q. Can you give me an update on your biopolymers activity.

A. Although we have programs underway, these are highly confidential so I can't really go into detail. What I can say is that bio products are important to us and our customers and we continue to actively review these – along with other promising green technologies – based on life cycle assessment principles and our ability to innovate and diversify into other sustainable product sectors. We've devoted considerable work on the durability of our materials and the lasting nature of the end products that use our materials which in itself helps reduce excessive carbon footprint. We've also worked to reduce halogens in our flame retardant materials. And through design, we've helped customers take weight out and reduce energy consumption. Meeting our customers' needs by capitalizing on our more than 75-year legacy of product innovation is our top priority.

Q. We see many companies attempting to grow by broadening their product offerings. Is SABIC Innovative Plastics expanding into any new product areas?

A. Our company name pretty much says it all. We are innovators of plastics...it's what we do. Yes, we are focused on developing products to further penetrate and grow a variety of industries ranging from automotive and healthcare to infrastructure, consumer electronics and more. New products like our Ultem* - resin based fibers are opening a lot of doors in industries that require flame retardant applications such as home furnishings, gas filtration, fabrics and textiles, transportation and seating. New plastics to replace lead, provide EMI shielding capabilities and offer solutions in fluid engineering are also growing. The use of new high-modulus materials for thin wall housings for mobile phones, laptops, PDAs and other consumer electronics products are other good examples. And new healthcare products that meet toughening industry regulations are yet another area where we are growing. Environmentally responsible product technologies are another key focus, of course.

Q. Has there been any political fallout, translating to business pushback, from your new ownership, considering global resentment of Saudi control of energy sources such as oil? What about policy towards women in management?

A. SABIC is a highly respected, good corporate citizen in all the communities in which it works around the world. It is also a leading petrochemical company in terms of product diversity, sales and production capacity. It is the largest public company in the Middle East, ranked by market capitalization, and one of the world's 10 largest petrochemicals manufacturers. The company is among the world's market leaders in the production of polyethylene, polypropylene, glycols, methanol, MTBE and fertilizers, is the fourth largest polymer producer, and the largest producer of steel products in the Middle East and North Africa. Our customers know that SABIC a great company with a strong global reputation.

Regarding the second part of your question, a number of female SABIC Innovative Plastics leaders have traveled to Saudi Arabia and have actively participated in cross-SABIC initiatives to share their expertise and experience. All of our leaders – male and female – are respected by their Saudi colleagues, and there has been tremendous best practice sharing on both sides over the last year-and-a-half.

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.