Summary of the Young & Partners 35th Annual Senior Chemical Executive Conference

November 15, 2022
In Person and Virtual Conference from 11:45 am EST to 5 pm EST
Yale Club of New York City

11:45 am	**Welcoming Comments**
	Peter Young, CEO and President, *Young & Partners*
12:00 pm	**Luncheon Begins (in person) and Virtual Networking**
12:15 pm	**Keynote Fireside Chat: "China and the U.S.: A Review of the Issues"**
	Dr. Jonathan R. Woetzel, Director, McKinsey Global Institute and Senior Partner, *McKinsey & Company*
	Moderator: Peter Young, CEO and President, *Young & Partners*
1:00 pm	"**M&A and Financial Developments – What is Happening and Why**"
	Peter Young, CEO and President, *Young & Partners*
1:45 pm	**Industry Perspectives: A Virtual and In Person Town Hall Meeting**
	Moderators: Peter Young, CEO and President, *Young & Partners* Steve Floyd, Managing Director, *Young & Partners*
2:30 pm	**"Green Chemicals: Band Aid or a Real Solution?"**
	Carlos Cabrera, Executive Chairman, *Genomatica* David Roesser, CEO, *Encina*
	Moderator: Steve Floyd, Managing Director, *Young & Partners*
3:30 pm	**Virtual and In Person Networking**
4:00 pm	"**Strategic Management in a Disruptive World**"
	Ben Gliklich, CEO, *Element Solutions* Raj Ratnakar, SVP, Chief Strategy Officer, *DuPont* Robert Westervelt, Editor in Chief, *IHS Chemical Week*
	Moderator: Peter Young, CEO and President, *Young & Partners*
5:00 pm	**Conclusion of the Conference**

Keynote Fireside Chat: China and the U.S.: A Review of the Issues

DR. JONATHAN R. WOETZEL, DIRECTOR, MCKINSEY GLOBAL INSTITUTE AND SENIOR PARTNER, MCKINSEY & COMPANY

PETER YOUNG, CEO & PRESIDENT, YOUNG & PARTNERS

Young: It will be a pleasure to get your view on China, its current situation and how it impacts everyone here today. To start off, could summarize your background so people get a sense for the depth of your China experience?

Woetzel: My background is 37 years with McKinsey and 36 years with China. My work is centered on client services in urbanization, real estate, infrastructure and finance. I also interact and help international companies who are involved with China.

Young: Firstly, I would like to ask if there are any comments about the re-election of Xi and what the implications are.

Woetzel: I think you can take away the strong political message that Xi is in charge. It turns out his team is an urban, technocratic, and coastal team, more accurate to what the future of China will be. The other thing that was clear related to policy and how China will remain consistent with their previous policies. One other thing of note was the downplaying of the belt and road initiative as it didn't come up and is most likely being scaled back. It seems that the zero-COVID policies will continue, but it is interesting as a lack of focus on this topic means that there is flexibility to change their stance.

Young: The zero-COVID policies have significantly disrupted supply chains. Do you think that it is sustainable to maintain this policy?

Woetzel: This has mainly had an effect on the consumer as they are scared and angry about the lockdown policies. Still, there has been a high savings rate and consumers have lots of cash on hand. This creates greater volatility, in the short term with a downturn. It does seem as though the government is a bit stuck with few options other than changing their COVID policies, but their economy will still grow at a respectable rate. They believe that once mortality rates drop, the WHO announces COVID as an endemic, greater vaccine availability is achieved, and medical infrastructure is available for a surge, that policies may change.

Young: China has a number of structural problems that need to be addressed, such as the real estate issue and the debt financing load. There are also challenges related to the increasing age of the population. We also can observe the clampdown on technology companies by the government. What do you think are these issues today and where you see the situation being in 3-5 years?

Woetzel: Short-term they say that the economy is driven by COVID-19 and a bit by the real estate situation. The real estate problem is a spillover from 2021 when the Three Red Lines policy made the China real estate industry de-lever and consolidate. This consolidation will most likely lead to a healthier economy in the next 12-24 months. In the medium term, the economy is driven by productivity and whether they can replace their tail end of the urbanization period with something different. The amount of capital needed to maintain growth increases as output has gone up and China has realized that it has become more expensive to invest. The productivity of each and every Chinese worker will become important as their output will be significantly determined by that factor. The Chinese government has said that technology is needed and we see it, especially in automotive, biopharma and fintech. I would say that private ownership of technological entrepreneurship is the greatest driver of innovation.

Young: I believe some people would disagree with you with regard to whether the private companies will drive growth due to the government's priorizing state-owned enterprises and the favoritism that occurs in the Chinese economy. Will this continue to dissuade entrepreneurs in China? Is there a flip-side to the points you have made with regard to technology and other sectors?

Woetzel: People in America generally have the consideration that China will fail and few people take into account the situations where China will succeed. State enterprises have their role, but have maintained the same amount of size in over a decade whereas the entrepreneurship size has grown significantly. Private companies have had the most IPOs and the most secondary equity issuances, which shows that they are still a developing and growing factor. No doubt it is still risky and there are problems with the government, but in China there are people that are willing to take that level of risk. We need to consider a scenario where China "wins" and the impact it could have on companies globally.

Young: However, if China fails, the negative impact will be global. That is one of the reasons by many China detractors still do not want China to fail.

Woetzel: From my experience, I never get questions on whether China wins, but rather questions on what to do when China fails.

Young: What's your read on the recent events such as Biden and Xi meeting as well as growing tensions in Taiwan and other areas of China? Do you think that tensions will escalate or calm down based on what you see happen?

Woetzel: While tensions are still high, it has cooled down slightly and will continue to over time. There is somewhat of a restraint from the Chinese side on the restrictions that have been instilled, but it seems as though the Chinese government is choosing to work around it. Southeast Asia may be significantly impacted as China has knitted together the region with 65% of their trades occurring in the region. This is almost as close to the trade with Europe at 70%. The economic linkage between China and Asia is growing significantly. However, politically it's a different story.

Young: What are the implications for people economically and politically for international chemical companies?

Woetzel: We are at a low level of multinational revenues in China with it currently around 10-12% of their total revenues, declining steadily since the decade of the 2000s. That reflects the increasing level of local competitiveness and the reluctance of the international companies to keep up with the local competitors. Industries such as automotive or mobile devices have declined, with local companies growing in those sectors. Some multinational companies such as Honeywell have created a local platform in China that has been very successful, but we can see that Chinese competition will become tougher.

Young: One last question. Could you walk us through your thoughts on how to approach China from a risk management perspective?

Woetzel: We break the risk down into three parts: the hazard is the fundamentally unpredictable part, the exposure is the areas and the extent you are affected, and the vulnerability is what you can do with it and how much stress your company is able to manage. These measure the extent where you may or may not understand or foresee a pattern. These things are topics people spend a lot of time thinking about, but often times do not have the information to come up with an answer. I would advise people to come up with a few scenarios to manage your exposure. This helps companies understand which parts of your businesses will be affected under different situations. In terms of resilience, I see many companies just build up their inventory, but there are other measures that are needed. We are seeing new CAPEX based on ideas to help improve resilience. One of the most important ways is to increase transparency through suppliers and customers to fully understand both supply chain and geopolitical risks.

M&A and Financial Developments – What is Happening and Why

PETER YOUNG, CEO & PRESIDENT, YOUNG & PARTNERS

Young: The situation has had more challenges than all of us than any of us can remember in recent times. On the chemical industry, it has been challenging, but the industry has not suffered as much by the pandemic and economic/geopolitical turmoil as a number of other industries have ben affected. There is also a special dynamic that is affecting chemicals related to the surge in ESG and sustainability pressures.

The stockmarket was been a challenge this year. Through the third quarter, the S&P 500 decreased 25.2% and the S&P Euro 350 by 20.8 %. The chemical industry also suffered and only our Fertilizer and U.S. Specialties chemical indices did better than the market.

In the first three quarters of 2022, $32.3 billion worth of deals closed. This compares to $72.8 billion that closed in all of 2021. So the dollar volume on an annualized basis has fallen dramatically. In terms of the number of deals, 64 deals were completed in the first three quarters of 2022 compared to 85 deals closed in all of 2021, so we are on a pace to see an equal number of deals in 2022 versus 2021. As a result, the average deal size has fallen significantly with no mega deals completed in the first three quarters, but the number of deals has held steady.

During the first three quarters of 2022, global M&A set a record in terms of deals completed in Asia, surging to 57.8% of deals globally. The U.S. followed with 23.4% of deals and Europe with 18.8%. Private equity also increased its share of acquisitions as they were 23.4% of the number of acquisitions and 19.3% of the dollar volume. This could be explained by strategic buyers holding off and private equity taking their place in certain situations, even though interest rates have gone up. Looking forward, the value of deals announced but not closed as of September 30, 2022 was a healthy $42.2 billion (27 deals), which suggests a healthy volume going forward.

Multiples of commodity chemicals have been driven down in the first three quarters of 2022 to 7.0x EV/EBITDA or 9.5x EV/EBITDA if you do not count 3 very low fertilizer transactions. The demand for these businesses have declined and have either impacted sales or lowered valuations. In specialty chemicals, we are starting to see a small decline, but valuations are still high at an average of 12.2x.

There was a dramatic reduction in non-bank debt financing in the first three quarters of 2022. With less M&A activity, there is a lower need to borrow. There was a surge in borrowing last year to assure liquidity and to take advantage of lower interest rates, so the drive to refinance has disappeared. High yield debt was a tiny $0.3 billion in the first three quarters of 2022 compared to the $10.8 billion in 2021.

There was a significant decrease in equity issuance in the first three quarters and on an annualized basis. $14.9 billion of equity was issued from 68 offerings in the first three quarters of 2022 compared to $22.3 billion issued in 116 offerings. In terms of IPOs, 37 IPOs were completed worth $9.2 billion in the first three quarters of 2022. Asian companies issuing in the Asian public markets continued their dominance of both the IPO and secondary offering markets.

The economic outlook will continue to be difficult in 2022 and beyond. There will be slowdown in the US and China and recession in Europe and other countries around the world. Senior management of chemical companies will need to prepare for various economic and geopolitical scenarios, be able to pivot quick and to be resilient. Interest rates will continue to dampen stock market returns and a market correction may last for some time. M&A activity will be supressed and continue to have softening valuations. However, “must do” transactions for strategic and financial owners will continue. M&A activity in Asia will remain high and European activity will decline. Specialties transactions are also expected to exceed the volume of commodity transactions. Debt financing will be limited. Equity financing will continue to be driven by Asian companies with subdued IPO activity, to the extent that there are any. There will also be opportunities to take advantage of valuation inefficiencies both as buyers and sellers.

Green Chemicals: Band Aid or a Real Solution?

CARLOS CABRERA, EXECUTIVE CHAIRMAN, GENOMATICA

DAVID ROESSER, CEO, ENCINA

STEVE FLOYD, MANAGING DIRECTOR, YOUNG & PARTNERS

Floyd: We are pleased to cover a topic that Young & Partners is particularly excited about. ESG and circular chemistry have become a critical priority both operationally and with regard to shareholder demands. Part of the excitement comes from companies building technologies that happen to be economical. I would like to introduce Carlos Cabrera and David Roesser to share their thoughts from the epicenter of the action. To start, we would like each of our panelists to talk about their personal interest in green or circular chemistry, how each ended up where they are today.

Roesser: I spent my whole life in sustainability and green chemistry. I got a couple PhDs and went to the dark side of business development early in my career. I have been working for the last 30 years to find answers to questions about sustainability. I spent about 14 years at Cargill, building a large industrial business on sustainable technologies. When I first started at Cargill, the business I was running had $10-$25 million of revenue and when I left in August 2021 it was $1 billion. The way we did that was very customer focused in different industries (replacing PVC, asphalt). It had to be economically sustainable and had to work for our customers. However, when I look at what was happening in plastics, sustainability initiatives are increasing in value and volume.
The disconnect for me is how do we get hold of the plastics after they have been used to turn them into something valuable. There are a lot of key pieces to the puzzle and with Encina I had to do due diligence on the technology they have to make sure it was the right one. Catalytically, we use a single process to change plastics into chemicals and it is a key part of that puzzle. We need to solve the waste problem. I do not see the situation as a plastics problem. For example, HTP and Polyethylene bottles contain 20-30% of plastics that can be recycled but the overall amount we see recycled in the U.S. is less than 10%. What Encina does is take plastics that will usually go to a landfill and make base chemicals out of them.

Cabrera: My career is simple; I am a big believer in science and technology. I am a chemical engineer by training. Green chemistry is an industry that is the best at doing things productively, efficiently and economically. You have to find the right cubbyholes to put your talents into. Green chemistry truly began in the era of Nixon when there was acid rain and lead in waters, creating the EPA and needing to solve those problems. I realized that we should be thoughtful and do things while addressing the issues that it creates beforehand, which is where the green chemistry comes in. In the next phase of my career I am focused on finding ways to create fuels other than from oil. We have tons of hydrogen technology, but we can use something that we have tons of in the United States that can be turned into fuels. That is how we came up with “green diesel”. At first no one wanted it even though it was economical, but now it has been wildly successful and has come a long way in the last 20 years. My involvement in Genomatica was also from my interest in the most precise chemistry, biology. The idea was to find a company similar to UOP 40 years ago and be able to take biological processes into an economic scale. Genomatica has commercialized three processes through innovation, licensing and other strategies.

Floyd: What inning, would you say green chemistry is at relative to the commercialization and reality of these inventions?

Cabrera: In a 9-inning game and from the perspective of commercialization, we are already currently in the 7th or 8th inning. From the perspective of science and technology, we are only in the 3rd or 4th inning. Technologies in synthetic biology have yet to reach significant scale and so we are still discovering things biology works better for than chemistry.

Roesser: Encina's strategy is different than others. We are taking technologies that have been around for forever and are using them in new applications. As a result the technology is sound on that point and we are building a plant expected to finish by Q2 2023. In terms of commercialization, our focus is to get our plant up and running and how or where we go next to we replicate these results. Specifically, our focus on aromatics has been building and industry leading for years in the chemical recycling space. Our output is large from a green chemistry standpoint but only a small amount compared to quantities that some customers buy.

Floyd: When we look at green chemistry there is a significant portion in the fuels and energy industry but just focusing on the chemical side, there are numerous obstacles to overcome such as feedstock, technology challenge, capital, economic viability, etc. I was surprised when I realized one of Encina's greatest difficulties include acquiring mixed plastics waste to use. Tell me about why this is an issue, how it is different globally and how you want to solve that.

Roesser: We have partnered with the plastics recycling arm of NYC (Sims) to acquired plastics waste. 450k tons of plastics will come into our plants every year. We have worked with municipalities before, but there is a market for this as well.

Floyd: What is your largest rate-limiting step and how do you scale that to be greater than a drop in the bucket?

Roesser: In general, the waste plastics market and the chemicals market are disconnected. We need to figure out how to match these industries scale wise as well. For example, plastics sorters are limited in size and getting the feedstock through is the largest limiting step. Capital is an issue and we have raised capital, with a large portion from Asia. For us, it has not been as difficult as for others due to a sound technologies and plants.

Floyd: Carlos, how do you food related raw materials compared to other feedstocks with less alternative uses?

Cabrera: We use agricultural resources as a feedstock where food is a misnomer in this process. The U.S. has one of the largest agricultural industry and US farmers grow a significant amount of corn where <5% is used for food. We are using biology to make molecules that cannot be easily made with chemical processes. As a result we have created a highly sustainable plastic (PPAT). Our strategy is to focus on the areas where the biology makes sense. Sustainability has also been seen in brands such as Unilever and Lululemon through greater transparency in the product development process.

Floyd: It seems as customer acceptance is the rate-limiting factor rather than scale-up.

Cabrera: My whole career has been scaling up. When I went to Genomatica, the plant was scaled out and it shocked me when I first joined. We are working on both processes that we have deployed and new projects. The rate limiting step is not just customer acceptance, but our ability to meet the growing demand of the customer acceptance as we are equipped currently to meet adequate demands.

Floyd: Many companies are focusing on becoming more "green" but 1-2% of revenues for large fuel or energy companies does not move the needle. What do you think of the eagerness or willingness when working with these players in the industry?

Roesser: Some are really excited to work with you while others are dismissive. Many that we are talking to are being pushed by their brand, with companies in Europe focusing on the percentages of recycled materials in their products. We do not want to work with people who would greenwash their materials.

Floyd: There are still people that believe that green chemistry is a fad or is not scalable to have an impact. What are your thoughts on these comments?

Cabrera: I believe that the innovation and potential is exponential. There are questions about seeing the transition of the fuels industry as what is currently available is a just a sliver. However, companies are working significantly to address this problem. I am optimistic that the current administration back changes that will boost the industry in the future. With regard to our own product portfolio choices, we have to identify opportunities where molecules can perform better than traditional chemistry.

Roesser: The genie is out of the bottle in terms of sustainability. My optimism comes with working in one of the most technical and innovation industries within sustainable chemistry and my confidence in our ability to address these issues.

Strategic Management in a Disruptive World

BEN GLIKLICH, CEO, ELEMENT SOLUTIONS

RAJ RATNAKAR, SVP, CHIEF STRATEGY OFFICER, DUPONT

ROB WESTERVELT, EDITOR IN CHIEF, IHS CHEMICAL WEEK

PETER YOUNG, CEO & PRESIDENT, YOUNG & PARTNERS

Young: I am very pleased to moderate the last panel of the day because the topic is affecting everyone in the industry. It is the combination of disruptions that have made our current situation so challenging. We thought we would have a diverse panel to be able to really reflect on these issues. I would like to take time to let each panelist introduce themselves, their position and their responsibilities.

Gliklich: Pleased to be here today, I am the CEO of Element Solutions, a global chemical company providing chemicals and materials to electronics and industrial end markets. We are a young company formed from legacy brands and in far our products are used in electronics manufacturing.

Ratnakar: Thank you. I am the head of strategy and M&A at DuPont for 3 and a half years. I came in at the carve out of DuPont. During the last 3 years we have been simplifying our portfolio for Ed Breen, the CEO. I am relatively new to chemicals and worked at Danaher previously with experience helping functionally transform companies.

Westervelt: I am the editor in chief of Chemical Week with a team of ten reporters covering the industry from a global basis. We have 90 reporters covering the broad chemical industry and 150 covering chemical prices.

Young: I am the head of Young & Partners an investment bank focused on chemicals and life sciences. I first worked at Bain & Company doing corporate strategy, was in private equity with the Whitney family, and I have been in investment banking since. What I would like is for each of our panelists to pick the most significant disruption that has affected your company or the companies you cover, and the impact it had.

Westervelt: I think if you look back at the past 18 months, there has been a supply chain crisis. Since 2021, this has been the primary challenge of the industry with cost inflation, and a scramble to secure supply. Supply constrains flattened profits and margins suffered. European demand is down while demand in other countries is still up, but the energy situation stalled certain parts of the business. One example is Exxon, with their profit growth being significantly affected by energy.

Ratnakar: For us, in addition to supply chain, the challenge is determining which of the disruptions are long-term. We want to know in the next 5-7 years what framework we should use to determine our strategic initiatives. The other problem is the environment of geopolitical, with certain issues in markets such as electronics that affect supply chains and customers.

Young: What actions would you have done differently if these disruptions had not happened that would have changed the outcome of things?

Ratnakar: In electronics the FABs are concentrated in China, however we expect these companies to enter the U.S. market. We will have to see if there are manufacturing advantages over competitors that have existed in China. We had also terminated our transaction with Rogers due to difficulties from international regulators. Although DuPont is a global company, we are considered an American company and geopolitical conflict will affect many strategic options such as where we have our manufacturing footprint.

Gliklich: The lens we look at for these challenges is the disease and a symptom. The symptoms have manifested themselves quickly such as supply and manufacturing problems and we were fortunate to have developed the tools previously to address the disruptions. The issues we faced in previous years are still relevant today and the lessons we learned can be applied to our current disruptions. We try to manage by being close to suppliers and customers on issues such as pricing that has been difficult for the last few quarters. Leveraging a nimble supply chain is also necessary such that you can supply critical end markets. With geopolitical tensions in electronics end markets, like Raj said, there is going to be pressure on companies to drive real value in the industry and it is an exciting time, notwithstanding the headwinds.

Young: I would agree with you, Rob, that the supply chain risk has been the greatest problem. What have the companies that you cover done to mitigate the supply chain issues?

Ratnakar: On Ben's point, a quote from Warren Buffett says that it is only when the tides out that you realize who has been swimming naked. The tools that are needed to solve the current issues are ones that should have been implemented before. For example, if you have a true global manufacturing footprint, if you do not have your eggs in one basket then you will do well. Many companies are doing pricing 101 due to not having the right tools or visibility into costs and insights. We have been very dynamic with regard to pricing and costs in order to maintain out profits. For example, every Monday morning meeting now begins with the Chief Purchasing Officer giving an overview on key elements of supply and trade.

Young: As part of our Senior Chemical Executive Conference last year we had a supply chain panel. The comments of the panelists mirror your sentiment about need to have a good information systems to make decisions.

Ratnakar: I believe more than just systems, the spreadsheets is all that are needed to make a decision and if you are too late then you will be reactive to the market. In most cases, if you have done it right with or without analytics you can still prepare for a disruption.

Gliklich: Our business is very sticky as we don't want to give them any reason to talk to other competitors so we compete on low cost and providing value to the customer. Our inputs are a fraction of the end product cost but deliver performance. We have the ability to pass on price so we must have data and a chain to deliver the data to the frontlines. Similarly, you have to upset happy customers with pricing changes. However, in this environment, you have to be able to sell the value with the pricing. There was also opportunity in areas where competitors have not been able to deliver.

Young: Beyond products that are sticky and in commodity businesses, it seems as though people have not had problems raising prices.

Young: To each of you, what disruptions do you worry about the most as you think ahead towards the next 1-2 years?

Westervelt: I will start with the supply chain. I believe supply chains will ease and begin to normalize.
As supply chains start to normalize, one question is what the response will be. How quickly can operating rates be dialed back as pricing becomes more difficult to manage?

Ratnakar: Most of the factors like supply chains have caused demand to drop in various areas. There were some fundamental problems with flow and reboots from things being shut down from COVID-19. I also believe that interest rates will be a factor which will force us recalibrate our decision-making factors. I also believe that the geopolitical issues are here to stay and are more structural and not temporary. The debt markets, for example, are a structural change, but do not affect significantly the strategic initiatives that we have planned.

Gliklich: We have seen the prices of some inputs going down, but in Europe we are seeing scarcity and inflation that we will see in 2023. The strength of the dollar has also been an output of the disruption that has accounted for a 70 million dollar headwind to EBITDA for us. It seems that the U.S. will continue to increase interest rates, potentially not at the same clip as previously, but the dollar will continue to strengthen.

Young: There have been changes to relative cost and risk by region. Have those changes affected your views about making manufacturing decisions geographically.

Gliklich: We focus on manufacturing and selling locally as our largest input is water and it is not affordable to ship it globally. To compete with other countries such as China in electronics requires overcoming obstacles such as local competitors. At the end of the day, we are still an American company and as such we believe to have a technological advantage and to be the market leading product stimulates further product and innovation in your market.

Westervelt: One thing I will keep my eye on is Europe and the plants being built there. I think it still makes sense to build in China as there is growth potential there.

Ratnakar: Coming from a non-chemical world, there is this common concept of building large plants and maximizing unit economics. However, is there a value to build smaller plants with a varied geographical footstep?

Westervelt: We talk about globalization and how there may be a greater electronics ecosystem built in the U.S. I believe that building where the demand is located is important. With specialties, building for the local market becomes even more pronounced.

Young: Martin Wolf recently wrote an article about de-globalization and he said free trade maximizes GDP across population as a group, but in the periods of time there is a push to de-globalize, there is also greater geopolitical tension. My last question for everyone on the panel is how you are organized? Would you like to comment your general philosophy about your organizational structure in the current global disruptive environment?

Ratnakar: I was trained to emphasize extreme de-centralization. Companies with multiple products in addition work especially well with this framework. In companies with a single product there is an ability to be more centralized. With diverse products, it is hard to make decisions centrally without screwing up. You may find yourself dealing with difficulties adjusting to even different end markets. The corporate center helps by providing the best practices, tools and learning things from the outside, similar to a coach, mentor and governance. We are all end market focused and have lines of responsibility to continue doing more.

Gliklich: I agree with Raj, when working with local end markets you need to be decentralized. The muscle needed for a global response is necessary when overcoming problems such as COVID. With regard to price, we gave our local managers power over making those decisions. Organizationally it doesn’t change our thinking as we realize when the teams on the frontline have the correct data and goals, they know the levers to pull better than anyone could centrally.

Ratnakar: With the mandates and a push, I think Ben is correct that it is the most effective way to get dynamic changes. We are carrying a cost no matter what and pushing a central message gives courage to those who need to raise prices.