IMAP

Creating Value

No. 5 DECEMBER 2018

AN IMAP MAGAZINE DEDICATED TO CREATING VALUE IN THE M&A MID-MARKET GLOBALLY

INSIGHTS

Miami Fall 2018 Conference
Innovation & Disruption
Mid-Market Companies Have the Edge

Autonomous Vehicle Technology
Innoluce – Lidar Sensors
SemVox – Smart Assistance

SECTOR FOCUS

Leading Pharmaceuticals in India
Disrupting Energy and Transportation
Consolidation in Plastic Packaging

Degroof Petercam Joins IMAP

In This Issue

INSIGHTS

SECTOR FOCUS

CASE STUDIES

IMAP IN FOCUS

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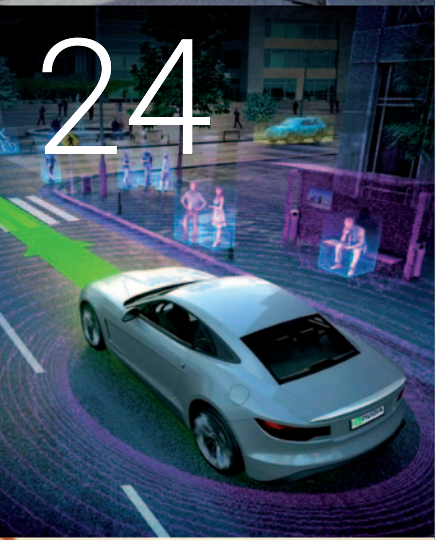

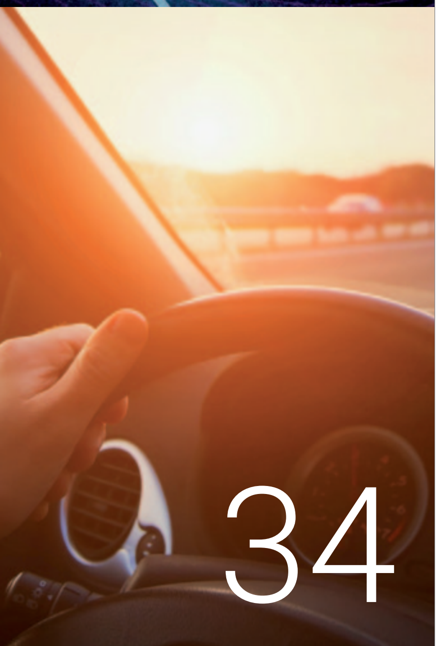

Chairman's Foreword

We are living in one of the most exciting periods of change in human history.

Technological innovations in the fields of artificial intelligence, quantum computing and big data, blockchain, 3D printing, robotics, materials science, biotech, longevity research and in numerous other fields, are leading to change in almost every area of business and society - including the future of manufacturing, the production and distribution of energy, healthcare and the structure of organizations, how we live, how we work and how we communicate. So, it was fitting that Innovation and its necessary twin, Disruption, were the themes of the IMAP Fall Symposium and Conference in Miami this past October, and the theme of this, the fifth issue of Creating Value.

It is almost banal to mention that every merger and private equity transaction now has to consider sector Innovation and Disruption trends, and not just superficially, but deeply; not just in technological change, but in market positioning, value chain analysis and even the way we think about valuation – it is a whole new ball game. Our symposium guest speakers, innovation gurus Mike Wetzer and John Nottingham, not only gave us new ideas and perspectives on how to look at M&A deals through the prism of innovation and disruption, but also gave us a glimpse of how IMAP might transform itself into an innovation market leader. You can find further insights from both Mike and John on this very subject in this issue.

Most of the other articles in this issue also hit on the Innovation and Disruption theme. Among them are two that take us into the world of autonomous vehicles. We interviewed the CEO of Innoluce, a leading innovator and supplier of miniature laser scanning modules for LIDAR, one of the most important components used in self-driving cars. He shares the before-and-after story of the sale of his company with help from IMAP Netherlands, as well as predictions regarding the commercialization and public acceptance of autonomous driving. We also include a case study from IMAP Germany on the sale of SemVox, a technology supplier for AI and machine learning-based proactive digital assistants, to a listed Tier-1 automotive company.

I am excited to announce that as of January 2019, Degroof Petercam Investment Banking (DPIB) will become the exclusive partner of IMAP in Belgium and France. This is a major development for IMAP, one which will make a significant advance in the presence and image of IMAP in these major European markets. Degroof Petercam becomes our oldest member, with roots going back to 1871. We welcome the DPIB team wholeheartedly and are pleased to feature an interview with François Wohrer, Group Head of Degroof Petercam's Investment Banking team.

As we enter the new year, there are short term worries on the horizon in the form of slowing worldwide growth. But despite that, please go back and re-read the first sentence above: *one of the most exciting periods of change in human history*. We hope you find this issue to be not only informative, but even positively disruptive as you chart your own strategy and business plans for the months ahead.

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Mid-Market Companies Have the Edge in Disruptive Innovation

IMAP's 2018 Fall Conference was hosted by IMAP partner firm Falls River Group (FRG), and was set around the theme of 'Disruptive Innovation'. Mike Wetzer, Founder & CEO of The Coastal Investors and John Nottingham, Co-Founder of business innovation firm Nottingham Spirk, shared practical examples of innovative products and business processes that have delivered transformational results

Middle market, entrepreneurial companies are poised for dramatic growth and market opportunities in the coming years if they can embrace disruptive innovation, according to former Silicon Valley Engineer, Accenture Leadership Partner and now Florida-based Venture Capitalist and Private Equity Investor, Mike Wetzer.

At the recent IMAP Fall 2018 Conference in Miami, Wetzer told an audience of middle-market merger and acquisition specialists from around the globe how the innovative companies that they frequently represent are highly sought-after by the largest companies in the world. Wetzer emphasized that streamlined, smaller companies can innovate very quickly, while big companies can't innovate fast enough.

Wetzer pointed out that companies which can focus on disruption can make it big. He recounted organizations he is currently and was previously involved with, as prime examples. While an engagement Partner at Accenture, Wetzer worked with a team at Raytheon that turned aircraft design and construction on its head. Private jets were traditionally designed and built in engineering driven, sequential development phases, but this team instead chose to bring designers and builders together under one roof, develop collaboratively, leverage 3D all-digital, object based design and rely on state-of-the-art materials science and composites to transform their business.

The result was a lightweight aircraft constructed in two carbon composite fuselage sections, which were connected to the wing with just a few bolts, in a fraction of the time and cost. The project was completed in 38 months, shedding years off the typical design and construction process.

He also described one of the new entrants to the on-demand economy, Dallas-based Pickup. The app-based service helps consumers and retailers get heavy or bulky items delivered around town – for example,

for one of those occasions when you might borrow a friend's pickup truck. Pickup executives originally thought its customers would be solely individuals, but have since started working directly with retailers such as Pier One, Williams Sonoma and Crate & Barrel. It has now expanded to 39 cities and is changing how larger goods are delivered from retailers to consumer's homes.

Wetzer noted that by hiring what it calls "good guys with trucks" to do the moving, Pickup actually owns no trucks, following the lead of other disruptive companies including Uber, which owns no vehicles, Facebook which owns no content, Airbnb which owns no real estate and Alibaba which owns no inventory.

For small and mid-size business, Wetzer has seen remarkable opportunities for innovation and disruption. For emphasis, he pointed to a 2015 Vanson Bourne survey for EMC, which showed that many organizations fail to: innovate in an agile way, predicatively spot new opportunities, deliver a personalized experience, operate in real-time or demonstrate transparency and trust. These shortfalls open the door for companies to take advantage of current trends.

John Nottingham believes that innovation is not just something you do on Thursday. Innovation is more process than bolt of lightning. Sure, great ideas hit all of us in the shower, but if a company truly wants to innovate, it has to create an innovation plan of action, execute on it and hold people accountable. According to Nottingham, most companies spend about 95% of their time on core innovation, 4% on adjacent innovation and 1% on disruptive innovation. He says the equation needs to be reworked as per a Harvard Business recommendation from 2012:

- 70% core innovation = 10% ROI
- 20% adjacent innovation = 20% ROI
- 10% disruptive innovation = 70% ROI

And here's why: The return on investment for disruptive innovation is far more compelling that than for core innovation. According to Nottingham, while critical, core innovation typically offers an ROI of 10%. Disruptive innovation, on the other hand, can offer an ROI of up to 70%.

If you really want to change paradigms and shake up the known universe, then focus on more disruption and less on adjacent or core innovation. And don't ask the team that's working on making iterative and core changes to also think about disruption – and vice versa. Diversify your innovation teams, or outsource part of it, and put processes in place so that creativity flourishes across the innovation mission.

Nottingham says innovation should be every CEO's focus and needs to be part of every company's business plan, and it must be a process that should be strategically followed over the long haul.

Time has proven that really big companies are better at buying innovation rather than doing it themselves. Lower to mid-market businesses have the advantage of being nimble and not bogged down in bureaucracy – and the big guys know this. About 20 years ago, Bill Gates was asked what he worried about at Microsoft, and he didn't say big competitors like Apple or Oracle. He said: "I worry about someone in a garage inventing something that I haven't thought of."

Innovation is not necessarily a "pretty" business. Wetzer stated that disruption is, in fact, raucous and unpredictable. Companies who feel they can trust legacy processes to deliver disruptive innovation without themselves adapting to new tools, organizations, strategies, etc. are in for a rough ride.

It's clear from listening to Wetzer and other experts that disruptive innovation is a major differentiator and evolving culture for start-ups and successful middle market companies - in turn making them very attractive M&A targets for their slower moving peers or large-cap companies.

According to Wetzer, small and mid-size companies are nimble enough to innovate in a meaningful way, while large-cap companies can't innovate fast enough – though they are willing to pay handsomely for it.

How does your business stack up? Are you ready to "disrupt?"

Small and mid-size companies are nimble enough to innovate in a meaningful way, while large-cap companies can't innovate fast enough – though they are willing to pay handsomely for it

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Our sincere thanks to the Falls River Group team for arranging a deeply thought-provoking and exciting symposium event.

You Can't Stop the Wave… But You Can Learn to Surf

Mike Wetzer, Founder and CEO of The Coastal Investors, is a seasoned Innovator and at this year's IMAP Fall Conference in Miami, presented on the topic of Disruptive Innovation. Following his success at the symposium event, IMAP talked to him further to get an even better understanding of why disruption can and should be embraced within businesses

Why is it so important for companies to embrace innovation?

If you're a company still playing by the pre-hyper tech era rules, it's likely that a new, "non-rules following" product or competitor will emerge out of nowhere to completely uproot your industry. Companies can't afford the luxury of complacency in any sector. In Silicon Valley there is a continuous sense of paranoia that some unforeseen tech or new player will emerge overnight to steal your lunch. Companies in any industry, still perceiving themselves as immune to the accelerating tech, social and global trends, will find it increasingly hard to stay in the game.

For example, in January 2007, Nokia, Motorola and Blackberry dominated the cellular handset landscape. Apple and its new 'iPhone' were not even considered a market player. If you were in complacency mode and assuming you knew your industry and tech, you completely missed the mark. It's clear that in this case, even tech savvy businesses failed to see this disruption coming. Leading up to this event, there was evidence of disruptive innovations;

> *Herd thinking needs to go and companies have to look outside the norm. Industry boundaries need to be blurred, business functions virtualized, organizations flattened and new cultures and values created*

a drop in the cost as well as an increase in bandwidth, advancements in touch screen display technology and steady improvements in battery/power performance.

As a company, you now need deep introspection and continual vigilance as to what's changing and the driving trends. But beyond observing, you also need speed and effective execution to be able to do something about it. In many cases, this speaks to the need to acquire what is needed and divest anything no longer mission critical.

Innovation can be difficult, but why should you foster a culture of innovation within your company?

Companies that can dedicate more time to thinking and disrupting will be able to exploit insights and opportunities to sustain a culture of innovation. They will be able to recognize and internalize what I call the three Existential Disruptors: Technology, Shrinking Planet and Society. The tendency is to focus on the first one; Technology and on how 5G and AI for example, can change the product space, but often the other two are dismissed at the expense of being able to execute on the great idea. For instance, what are the evolving global/national privacy implications? How will you excel with a millennial and fractional/transitory "gig" oriented workforce?

Products can be created, produced and distributed at great speed now. Disruptive and innovative technologies, when applied to the business process mean that cross-functional, cross-border projects can leverage continual 24/7 product development, resources and markets. Similarly, IT and the business methods and mechanics supporting decision-making, teaming and leadership, among many other functions, can be leveraged to disrupt and excel.

Amazon is a prime example of an evolved culture. Not only did its people think about opportunities well beyond existing industry lines as a standard part of their job function, it was one of the first to market in turning its own IT excellence into a saleable service (Amazon Elastic Compute Cloud Service – EC2).

For some companies, the acquisition of technology or a capacity is a very viable strategy. Hence, the ability to excel at the culture of migrating or absorbing capability is in itself an area in which to differentiate.

Are there any metrics and benchmarks that can help companies gauge where they are on the innovation curve and how they can set themselves apart?

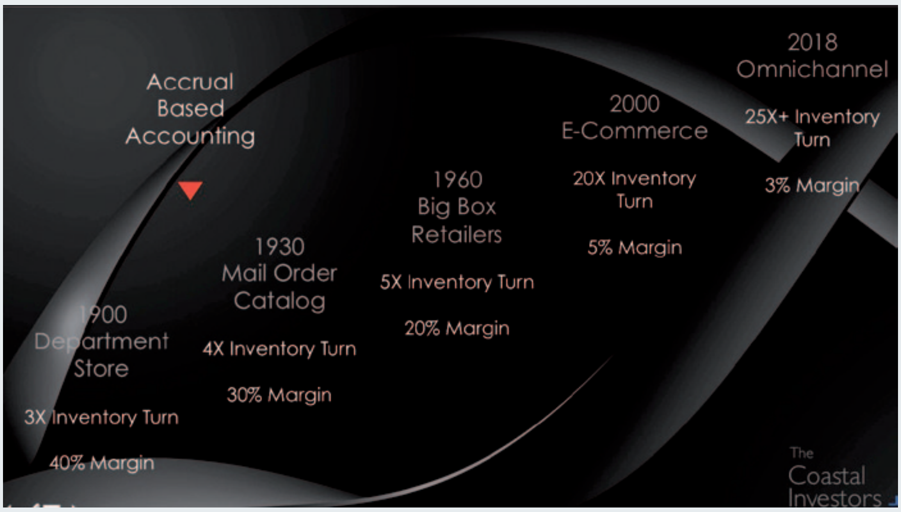
EMC commissioned a study by Vanson Bourne to find and assess characteristics of what companies would need to do well overall, in order to move from the industrial, to the information age - essentially what to look for in the DNA of companies. 5 key capabilities were identified:

1. Innovate in an agile way
2. Spot new opportunities
3. Deliver personalized experience
4. Operate in real-time
5. Demonstrate transparency and trust

The results were certainly stunning. As evident in the study results, leaders were nearly unanimous in concluding that technology has forever changed the rules of business, yet their self-assessments of how well they were prepared were abysmal. For example, only 9% said they could innovate in an agile way and a mere 2% said they can operate in real time. You need to be nimble, but if your ability to do so is limited, then you need to ask yourself, what are you as a company resourced for and do you have the right mix of capabilities? Have you done the introspection or should you be getting very serious about it? Interestingly, those business cultures where looking, creating and finding new opportunities is rewarded and celebrated, do not mesh well with those who seek "stability and predictability".

One other key takeaway is that the financial measurement "instruments" we all cherish are ripe for disruptive innovation. When we consider the origin of the modern 10K income statement etc., we need to go all the way back to the 1920's. Accrual based accounting evolved for a number of reasons, but the context was an industrial economy. Inventories, payroll expense and the like, were dominant variables of success.

Fast forward to today and an information based economy with market cap/value assigned to things like the social currency of opinion - not only do conventional financials do a terrible job of identifying the impact of a poorly worded tweet (ask Elon Musk…), they also fail in providing insights into the non-recurring side of innovation and product development. The degree of confidence that a new product/service is on the right development track and is the right one at the right time for the market, is frighteningly low. What legacy accounting can show are things such as engineering direct labor and perhaps some prototype expense being incurred, hardly the right instrumentation nor management tool for the job.



In your view, what's the most exciting sector in terms of technology and trends?
All sectors are exciting if you look at them through the lens of disruption. Take manufacturing for example, which has a huge opportunity to transform itself using the latest tech in 3D printing, robotics and digital design. Then there are the professional services, such as accountancy, tax and financial services, where the explosion of Fintech companies has proven that the provision of services can be virtualized and subject to the extensive application of analytics and AI. Another sector that is hugely exciting right now is retail; where the transformation of web only and brick & mortar only delivery models, is giving way to omnichannel strategies.

On a personal note, of the skills you have obtained over the years for honing your disruptive innovation spotting, what would you say is the most useful?
Having a creative side grounded in a lot of career scar tissue and practical sense is what I would consider my differentiating factor. I undertook a lot of operational lifting early in my career, moving into consulting and complex problem solving, which sparked the desire to combine the abstract, analytical, creative and practical. I think some of the most important skills, are being able to stand back, listen, watch, process and subsequently orchestrate the outcome with the right people, with passion and the right mindset.

How prepared are the future generations for this do you think?
I think there is both a light and dark side. I'll give two examples for each. On the one hand, today's generations are completely comfortable with disruptive change, unpredictability and adaptation at levels prior generations can only marvel at. Another is the (long in coming) macro trend in primary and secondary education to finally promote STEM (Science, Technology, Engineering and Math).

On the other, the declines in in-person social skill (vs texting), desire to be taken care of and need for inclusion can be very detrimental. Lastly, for some reason, especially in the US, there is a perception that everyone should obtain a 4-year degree, or enter the workforce unskilled. Some of the most creative and innovative people I have come across, are in the skilled trades. Society and future generations need to place a renewed value on these and must unleash their insights and common sense.

What is your key piece of advice for companies today, in order to stay the course in an age of disruption?
Herd thinking needs to go and companies have to look outside the norm. Industry boundaries need to be blurred, business functions virtualized, organizations flattened and new cultures and values created.

Things are moving fast and will get even faster in all the sectors. Building a culture in which everyone thinks creatively and how to disrupt convention will be differentiating. To an earlier point, the ability of organizations to leverage their younger workforce who are most comfortable with this instability and constant state of change will be game changing. Also, the more your entire organization embraces disruptive thinking, diversity and creativity the better. TED talks for example, are great for sparking ideas from different minds.

Then of course, you need to be able to operationally execute and make it happen. You must be able to work through the complexities and export them into a workable plan and get passionate people on board.

MIKE WETZER is Founder & CEO of The Coastal Investors and an accomplished Senior Executive, Investor, Entrepreneur and Innovator. Mike has an incredibly rounded blend of experience, having spent time as an Engineer in Silicon Valley, Leadership Partner with Accenture and CEO of hyper growth companies. Mike is also an Advisor to businesses and sits on various company Boards.

Innovation Due Diligence: Looking Ahead, Not in the Rearview Mirror

John Nottingham, Co-President at Nottingham Spirk, a business innovation firm, shares his thoughts on what companies must do to reach their innovation potential. Executive-level support, patience and collaboration and forward-looking thinking are crucial

HALO Innovations, Inc. was a soft goods manufacturer, specializing in safe baby sleepwear, when the company approached Nottingham Spirk about a strategic partnership. In our wide-ranging discussions, we got into the issue of co-sleeping - parents and infants sharing beds. It's a polarizing topic, but it also represented an opportunity: could we bring the safety of a bassinet into an adult bed in a way that's comfortable for babies and parents? The resulting product, the Bassinest, went on to win awards and was mentioned in the announcement when Swander Pace-backed aiden + anais, another children's soft goods maker, acquired HALO in 2016.

The ability to innovate disruptively - not with incremental tweaks to existing lines but by expanding into adjacent categories or, even better, creating new ones, as the Bassinest did - is a powerful variable in a company's worth. However, it's difficult to measure. Traditional due diligence efforts look at history, because that's where the data is. Innovation due diligence looks at possible futures, therefore, calling for different methods of evaluation. The Spinbrush, which NS co-developed with Dr. John's SpinBrush, LLC, sold for $475 million, 24 times EBITDA - not because of its surprising but still modest first-year sales, but because we were able to show Procter & Gamble what was possible in second and third generation versions in the Crest SpinBrush line of products.

Working with hundreds of partner clients, of all shapes and sizes, over 4-plus decades, Nottingham Spirk has learned which factors most accurately predict whether an organization can successfully innovate; not just once, but over and over again. This innovation potential is significant for driving value for both the organization that's being acquired and the acquirer. Some critical success factors that we've identified are outlined ahead:

C-SUITE ADVOCACY AND SUPPORT

In our experience, nothing holds innovation back more than a lack of appreciation for the level of organizational and cultural shift that's often necessary to support it. The CEO needs to be the first to embrace that challenge, openly and consistently.

Only the CEO can ensure that the company doesn't fall into the habit of thinking backwards, always starting with current capabilities and ideating and designing within those limitations. Only the CEO can insist that the company remains a "learning organization," as described in Peter Senge's seminal book ***The Fifth Discipline***. Learning facilitates foresight, adaptability and the ability to align innovation opportunities and business strategy. That was one of the goals of MTD Products' leaders when they engaged with NS to develop the concept that became the Troy-Bilt FLEX modular yard care system. Black & Decker recently acquired a 20% stake in MTD in a $234 million deal.

Culture can temper enthusiasm for the boldest ideas. But culture can change, with ongoing, vocal support from the C-suite. This can be exceedingly challenging, however, for leaders who are hyper-focused on efficiency. Innovation is not a tidy, linear process that maps itself readily to traditional scorecards. The more disruptive the product (to markets, but also to internal dynamics), the more chaotic and plodding the process will seem. CEOs need to accept a certain amount of ambiguity from their innovation initiatives and defend them from accusations of preferential treatment.

EMPOWERED INNOVATION "CHAMPIONS"

The CEO of a prospective partner company once told us: "I have 3 innovations and I have no one inside to drive them." CEOs can't be everywhere. While many companies today have Directors (or Vice Presidents) of Innovation, not all seem to grasp that innovation requires more than making the word part of someone's title. When these people have few or no direct reports, they can find themselves hemmed in by varying levels of resistance from the individuals and departments whose cooperation they need to move concepts forward.

Only with the full backing from the C-suite can a champion build consensus and overcome natural internal resistance to change. This often calls for tearing down non-load-bearing walls between departments that can thwart progress. Of course, a mandate from above won't automatically quell concerns among staff about loss of control. Insecurities are natural and should be addressed, not dismissed. The champion needs to assure colleagues that the organizational changes are not about power, but about maximizing collaboration. Insights, design, engineering, commercialization, manufacturing and marketing should not be treated as distinct stages; they overlap and all of these departments should have a seat at the table from start to finish. Vertically integrated teams are more nimble than silos.

When evaluating a company for potential sale or acquisition, the key is to focus on the future and the potential for innovation within an organization to determine value and maximum multiples of EBITDA. Keep your eyes on the road ahead, not in the rearview mirror

Have you ever dealt with a messy paint can while doing a home improvement project? You first pry the lid off with a screwdriver. Then you awkwardly tip and pour it while trying not to make a mess. Nottingham Spirk teamed with Dutch Boy and created the Twist & Pour paint can with a built-in handle, screw-on lid and integrated spout. Dutch Boy paint sales tripled in the first six months, and the innovative cans are now available across the Sherwin-Williams family of brands.

Nottingham Spirk transformed the electric toothbrush business. Working with innovation partner company Dr. John's, Nottingham and his team set out to design and manufacture an electric toothbrush that would retail for $5, opening-up massive market opportunities. It changed the way millions of people brushed their teeth. The result was the Dr. John's SpinBrush which was sold to Procter & Gamble for $475 million.

Where one person might see a molded plastic bedpan, another envisions a kid's toy wagon. One of Nottingham Spirk's first clients was a rotational molding company called Rotadyne, known for making plastic medical supplies. It went from making boring (and icky) bedpans to plastic molded swings, cars, sandboxes and playhouses. If you have a child under 10 in your sphere, you are likely familiar with the brand now known as Little Tikes. From bedpans to toy sales of more than $600 million and a profitable exit sale to MGA Entertainment for the owners.

WORKSHOPPING AND TESTING

We have all seen seemingly great ideas for products or services that never get traction. We are a nation of innovators but only 5% of patents ever get commercialized and 97% of those never make any money. Why? Most entrepreneurs and companies falter at the point where they ask if their product can be manufactured and licensed at a competitive price. Before going into mass production and before making big financial commitments to manufacture, Nottingham and his team advocate for workshopping and testing to determine the viability of the product in real time. They also do extensive patent searches to create a competitive matrix. In the IMAP meeting, Nottingham discussed the innovation cycle of the Dutch Boy screw top can. Everyone thought they had a winner, but they first tried it out in one market which they felt would make a good representative sample. After the product flew off the shelves in the test market, Sherwin Williams took the Twist & Pour nationwide. Today, Amazon makes it easy to test market products online, while securing detailed sales data and shopper feedback.

SUSTAINED, COLLABORATIVE EFFORT

Buy-in is important, because innovation that goes beyond incremental improvements to existing product lines is rarely quick or easy. Patience and focus are crucial.

Take market and customer research: done right, research does not just lead to or support an idea, it drives and informs every step in the development of that idea. This mitigates risk. Taking two steps forward, one step back, ensures continuous progress, but also discreet review points to reassess the market, customer interest and patent issues, etc., in order to pivot if the landscape changes. Spending and risk rise gradually, as you gain confidence in the venture. In a way, that process never stops. Even after launch, it's important to seek out the end user for feedback in a constant cycle of listen, create, listen, create.

Often the most difficult transition for companies to make is rethinking commercialization, which includes design for manufacture; decisions about materials, sourcing and tooling, certifications and shipping from factory to warehouse. We often refer to it as "the last mile of innovation," to emphasize that while it represents the home stretch, it's as much a part of the process as ideating, insights and design.

DOWNSTREAM BUY-IN

C-suite support remains imperative even after launch. Sales, marketing and distribution of the new products often require re-alignment and adjustment of how products are typically sold within the organization. The product must be treated as a full-class citizen within the larger, pre-existing product portfolio - which brings us back to C-suite support.

Nottingham Spirk recently worked with a packaging company that, at first, just wanted help solving a manufacturing dilemma. Then we partnered on a new product within its category and most recently, we have collaborated on identifying opportunities in adjacent categories, areas where competitors are unlikely to follow. All of this was done with an eye towards eventual acquisition, with an enhanced multiple to reflect this thoroughly researched and IP-protected concept portfolio.

When evaluating a company for potential sale or acquisition, the key is to focus on the future and the potential for innovation within an organization to determine value and maximum multiples of EBITDA. Keep your eyes on the road ahead, not in the rearview mirror.

NOTTINGHAM SPIRK
THE BUSINESS INNOVATION FIRM

JOHN NOTTINGHAM is Co-President at Nottingham Spirk, a business innovation firm located in Cleveland. With a 46-year history of predicting the future, it has successfully brought over 1,000 products to market and secured over 1,200 patents, 95% of which have been commercialized.

www.nottinghamspirk.com

Insights from the World's Thought Leaders on What's in Store for Corporate Innovation

YPO organized one of the world's largest and most significant global innovation initiatives of its kind, bringing together prominent and renowned leaders in business, finance, PE, consulting, economic policy and academia to a series of international seminars

YPO is the world's premier leadership organization of chief executives, entrepreneurs and business owners, which today empowers over 25,000 members across more than 130 countries. Earlier this year, its Hungarian Member Group organized an open seminar on Innovation, for both members and curious non-members which was held in the stunning new building of the Central European University in Budapest. The conference was part of YPO's Innovation Week 2018 and coordinated by the YPO Entrepreneurship & Innovation Network.

The seminar program was colored by thought-provoking presentations, and stimulating panel discussions. Below are summaries of 4 of the key presentations that reflect current thinking by international thought leaders on the hot topic of corporate innovation.

PATRICK SWEENEY: HOW TO USE FEAR'S MECHANISM OF ACTION TO BOOST INNOVATION

Patrick Sweeney is an Olympic champion and Founder of RFID, a high-impact startup in the field of identification technology. He is also one of the leaders of YPO and a widely recognized and popular lecturer. Nowadays, Patrick is working on how to implement the latest in neurological research in corporate decision theory. In his approach, corporate innovation is the decision process of every company employee and based on individual decision-making and as such, neurologically analyzable and interpretable. Additionally, as this decision-making process is based on neurological research, it can be conditioned and is thus learnable. According to analysis, the human brain mobilizes its resources most effectively in response to fear, because the brain, just like every other part of the body, is conditioned to survive – so by Sweeney's interpretation, corporate brain capacity is best mobilized to achieve innovation, if the innovation's driving force is corporate fear.

WHAT IS THE BASE OF CORPORATE FEAR?

According to Sweeney, there are 3 requirements – the "three D's":

1. **Discomfort:** The realization that something is not working or not working as intended. It is essential that there is collective recognition at a leadership

and corporate level that there are problems and they have to be solved through innovation in order to make progress.

2. **Diversity:** According to Sweeney's own experience, to be innovative you must have people with different approaches, backgrounds and experiences in order to establish, specify and implement an innovative solution.
3. **Destruction:** Sweeney feels that the greatest enemy of innovation is our own neurological particularity, in that we always aim for loss-minimization. To be innovative we need to break this neurological process and bravely question even the most basic principles; be it product, production or even operational process innovation. Innovation is not about small steps, but a huge, significant step – that means getting rid of or demolishing previous processes and approaches.

> *The greatest enemy of innovation is our own neurological particularity, in that we always aim for loss-minimization. To be innovative we need to break this neurological process and bravely question even the most basic principles; be it product, production or even operational process innovation*

Sweeney's final comment was that we need another D in addition to the "three D's": the "**deploy or die**" principle. By this he means that companies that do not approach innovation based on fear and merely leave any innovation in the hands of central R&D groups. This is an undesirable and insular approach to innovation as opposed to spreading the innovation culture – just think of Polaroid or many previously-strong car brands that are likely to disappear forever.

Artificial intelligence won't replace doctors. Rather, doctors that use artificial intelligence will replace those doctors who don't

BERTALAN MESKÓ: SCI-FI IN HEALTHCARE

Bertalan Meskó, the world-renowned Futurist spoke about the role of innovation in healthcare. As well as discussing numerous innovations that are already accessible to patients, he talked about his vision for the future and the innovations he expects to see in healthcare 10 years from now.

His key message was in regards to artificial intelligence and its application in healthcare: "Artificial intelligence won't replace doctors. Rather, doctors that use artificial intelligence will replace those doctors who don't."

ADAM ANDERS: SUBVERSIVE TECHNOLOGICAL INNOVATION IN AGRICULTURE AND THE FOOD INDUSTRY

Adam Anders is the Leader of a Dutch Venture Capital Fund, whose goal for the last 10 years has been to finance innovative companies in the agriculture and food industries.

Anders stated that even though food is an essential product and food producers play an essential and increasingly important production role as the world's population continues to grow, they remain unable to cover their capital costs and in fact, are in the red most of the time. In the European Union, food producers make all of their profit on subsidization. Entrepreneurial minds have changed multiple sectors and value chains, but there continues to be a long-awaited revolution in the agricultural industry. In 2009, venture capital for financing innovations in the agricultural and food industries stood at just a few hundred million Euros worldwide. Today however, things have changed and in 2017, venture capital for innovators in both sectors was over 10 billion Euros.

Anders sees and expects further progress in the following fields:

- The use of molecular biology as opposed to molecular chemistry will become more common in plant growing
- New types of breeding, such as genetic interventions instead of the existing and basic cross-breeding that dates back to a thousand years ago
- Increase in highly accurate production methodologies over inaccurate agricultural production
- Automated, rather than manual harvesting and product processing
- Highly accurate customization as opposed to general solutions
- Innovative, new (online) distribution techniques instead of traditional distribution means

To conclude, Anders referred to Sweeney's innovation supporting "3D" system, stating the following: In the agricultural and food industries, the gate hindering innovation could have been that companies were just not scared enough to make brave steps needed in industries that have survived on tradition and existing practices.

GERGELY BACSÓ: HOW TO CREATE SCALABLE INNOVATION?

Gergely Bacsó, Partner at the Budapest office of McKinsey & Co and one of McKinsey's Global Fintech Group Leaders, outlined McKinsey's thoughts on the basic elements required to upscale innovation based on 2 points:

- Upscaling innovation does not depend on ideas, but on whether innovators possess the eight building blocks to success
- In the end, the fate of innovation depends on the way it is introduced and implemented – or what the organization does to make it happen

He also answered the question, "When is an innovation scalable?", which he explained is when it creates a significant financial impact and brings sustainable and durable changes to new products, services, processes or business models.

All of this is only possible if the appropriate organizational structure is provided. According to McKinsey, the dynamic conversion of traditionally functioning organization structures is recognizable across many industries, taking "digital native" firms from Silicon Valley (e.g. Spotify) as an example. These are the so-called agile organizations and more and more corporations want to be agile, where they are no longer divided by groups, departments and divisions, but rather 'tribes', 'guilds', 'squads' and 'chapters', which are the basic elements in cross-functional operations that can facilitate innovation.

THE 8 BUILDING BLOCKS TO SUCCESS:

CLEAR VISION AND STRATEGY	**ASPIRE**	Requiring the strong aspiration and commitment to innovation of business owners/leaders
	CHOOSE	Find a field or create an idea-portfolio, which defines the focus fields of innovation based on active selection
GREATER AND BETTER IDEAS	**DISCOVER**	Designate a field where long term and sustainable success is likely
	EVOLVE	Establish a business model that is capable of sustaining an advantage
FAST AND EFFICIENT UPSCALING	**ACCELERATE**	Defeat competitors by fast and efficient implementation of innovation
	SCALE	Introduce innovations on markets and in segments where there is a high probability of quick growth
DYNAMIC ORGANIZATIONAL IMPLEMENTATION	**EXTEND**	Within the internal environment, let the external environment participate in the implementation of an idea (i.e. look for cooperation)
	MOBILIZE	Recognize and motivate employees during the innovation process

"More and more corporations want to be agile, where they are no longer divided by groups, departments and divisions, but rather 'tribes', 'guilds', 'squads' and 'chapters', which are the basic elements in cross-functional operations that can facilitate innovation

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Innovation and Inorganic Growth Go Hand in Hand for Dishman Carbogen

IMAP India recently sat down with Mr. J Vyas, the Founder of Dishman Carbogen, to discuss the key acquisitions that transformed the Group, US market potential versus the constraints on entry, as well as how both innovation along with inorganic growth play a key role in its long-term strategy

Dishman Carbogen, a reputable pharma group in India, engages primarily in Contract Research and Manufacturing Services (CRAMS) and the manufacturing of Active Pharmaceutical Ingredients (APIs). It also provides a wide range of antiseptics, disinfectants and other vitamins. The company has a global presence, with 25 manufacturing sites in Switzerland, the UK, France, the Netherlands, India and China. It also has 28 dedicated R&D labs with multiple-shift operations. The Dishman Group was one of the first pharma companies to make acquisitions in overseas markets, when it bought Carbogen Amcis in 2006. Since then, it has made several acquisitions across Europe and Asia and currently has a market cap of $750 million.

The team at IMAP India has advised Mr. Vyas on multiple acquisitions over the past 15 years, including a JV in early 2018 and are currently exploring targets in the US, with a $300 million war chest on hand.

Dishman was one of the first pharma companies in India to create a strong presence in Europe and with clear differentiation. How did this come about?
Dishman Pharma began operations in 1989, manufacturing phase transfer catalysts and quaternary ammonium and phosphonium compounds (QUAT) from a 10MT capacity plant in Gujarat, India. Given that these products were used mainly in advanced chemistry, this meant there was a limited market in India. Therefore, we had to look at the more advanced markets in order to develop customers for our products.

During that period, we started marketing in Europe and the US and had extensive interactions with leading pharma companies, to create awareness about our products and familiarize prospective customers with Dishman. I personally conducted over 200 informative presentations in the US, Germany, the Netherlands and many other parts of Europe in the mid 90s. These interactions resulted in a flow of enquiries ultimately converting into our contract manufacturing business for molecules – most of which came from European companies. Our ability to form a long-term relationship with Solvay during this period was a significant milestone and set the course for our future growth.

Innovation is an extremely critical element in our industry because not only do we need to work on new products and processes, but also existing processes, which need continuous improvements. We remain focused on working with innovators in all 3 phases of development, followed up by large-scale manufacturing in the commercial phase and constant improvements at all stages of the drug life cycle

Could you elaborate on how the partnership with Solvay came about?
One of the lectures we delivered during our initial marketing efforts in Europe impressed the then CEO of Solvay. He offered Dishman a challenge; to help them reduce the cost production of Eprosartan, a patented product which they had bought from SmithKline Beecham for a very large sum. Being that it was a patented product, we could not change the manufacturing process hence I shifted my focus towards developing the key intermediates (initial molecules) in-house. We worked continuously to enhance the reaction process and were able to finally reduce the price of these intermediaries and therefore, that of the API.

As a result, we won a $12 million order from Solvay, which was very large for us at that time. However, we did not have the funds to execute this order so were actively seeking funding. This led to the beginning of our association with Ashutosh Maheshvari, Managing Director of IMAP India, who was with Rabobank at that time and provided us with the required funding in good faith. Dishman went on to replace Lonza and become the sole supplier to Solvay for this product, which remains an arrangement we still hold to this day.

From supplying to pharma companies in Europe, to actually acquiring businesses in those geographies, how did this transition occur?

Given our experience of working with European clients, we knew that we had the technical capability to meet their requirements. We also knew that to grow, we needed to expand our client base. With our successful listing in 2004, which was oversubscribed 40 times, along with a FCCB fund raise of $50 million, we were perfectly placed to commence actively looking at acquisitions which would give us access to a wider client base in Europe. In 2005, we acquired Synprotec UK, which offered us access to projects in late clinical development stages and had a wide client base. The target also came with an experienced team of over 250 professionals, IP's, a manufacturing facility and a R&D facility.

Subsequently, in August 2006, Dishman acquired research-based company, Carbogen Amcis, in Switzerland. Carbogen offered contract drug discovery research services at all stages of drug development, had GMP approved APIs in clinical trials and provided contract manufacturing services for low volume high potency APIs. In terms of infrastructure, Carbogen Amcis had a very well-established R&D setup and 3 manufacturing facilities in Switzerland. The acquisition of Carbogen was a turning point in the history of Dishman and currently accounts for approximately 75% of the Group's turnover. In 2008, Solvay offered to sell us their non-core, but profitable, Cholestrol, Vitamin D and Vitamin D analogues business for $12 million.

Overall, I would say that we require our acquisitions to be strong in product innovation, have good intellectual property and good R&D capabilities; all of which impacts the underlying customer and thus ensures you can draw good profit margins. We do have a large manufacturing base in India, but it is exclusively for exports, largely to Europe.

Is Dishman considering a foray into the US market?

The US is a large and competitive market and therefore, requires a large war chest if you are even considering looking to enter it. Companies are required to invest in R&D, have manufacturing facilities which are FDA compliant, build a product pipeline, as well as a sales and distribution network – all of which we could not afford in the last decade. Given our sufficient hold in the European market and established track record with leading customers, impeccable regulatory track record and leading position in synthetic chemistry, we are currently considering opportunities in the US market, specifically in the injectables business.
To be a relevant player in this space, we are preparing a corpus of more than $300 million for acquisitions of companies that have a strong product portfolio and good R&D capabilities.

What is your view on growth through innovation, versus inorganic growth, since Dishman seems to have used both these routes in the past?

Innovation is an extremely critical element in our industry because not only do we need to work on new products and processes, but also existing processes, which need continuous improvements. Dishman is here today because of our strong focus on innovation and persistent passion and dedication to keep evolving and coming up with better chemistry.
We remain focused on working with innovators in all 3 phases of development,

followed up by large-scale manufacturing in the commercial phase and constant improvements at all stages of the drug life cycle. Our manufacturing and research approach is very different to any other company in India and we have managed to develop a close working relationship with all the large pharma companies.

Can you outline some of the other key developments at Dishman?

Dishman has Asia's largest HIPO (high potency) facility in Gujarat, India, where we manufacture vitamin analogues. Currently, I am personally involved in a project where we are working on a soft gel dosage form of 25mg (40,000 soft gels is equal to 1gm of vitamin analogue) and expanding our client base by offering customized solutions. In 2019, we will be coming up with a completely vegan chemistry source for our Vitamin D analogue, which will be fully synthetic, built without using any enzymes. We plan to undertake aggressive marketing of these features during the upcoming year. In terms of the Vitamin business, we are redesigning a large part of the process and we also intend to start manufacturing the key starting materials ourselves, which should lead to a substantial improvement in the margins.

For the first time, we are selectively looking at formulations in downstream specialty chemicals, where we can contribute to the production and marketing of cost efficient products for consumers. We do not have any retail or consumer sales presence and therefore, are required to build partnerships. Our association with Eurolife in the disinfectants business is an effort in that direction, which was facilitated by IMAP India. We are also planning to list Carbogen Amics on the Swiss exchange in 12-18 months, in order to help create value for shareholders and further build our war chest for future growth in Europe and the US.

The team at IMAP India has been an integral part of our strategy of looking for inorganic growth and we have a very good track record of absorbing the acquisitions into our business. We have learnt a lot from the acquisitions and are building a stronger company together.

JANMEJAY VYAS
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Specialty Pharma Company Eurolife Healthcare Stays Ahead of the Market

IMAP Hungary spoke with Sandeep Toshniwal, Eurolife CEO, to discuss the innovative mind-set behind Eurolife's success and how they were able to overtake their competitors

Eurolife Healthcare is an Indian manufacturer and distributor of intravenous infusions, injectable, ophthalmics and other allopathic formulations. Its client base includes more than 12,000 hospitals and nursing homes and it boasts a 30% market share of the Indian infusions market, producing 300 million infusion packs annually. IMAP sat down with the CEO of Eurolife to better understand how the company stays ahead of the market.

While the pharmaceutical industry is R&D heavy in general, this is not the case in the intravenous infusion segment. However, innovation still remains an important factor in transforming the competitive landscape, so what role does it play in terms of Eurolife Healthcare's strategy?
Our segment is rather low value-add due to the bulky nature of infusions, so it is a substantial challenge to differentiate a commodity-like product. Besides, regulation in India is quite restrictive; there are no strong patents and pricing is also heavily regulated. Therefore, we try to keep ahead of the competition by foreseeing market trends, keeping up with the latest technologies and by understanding our clients' needs. What differentiates us from our competitors is that we put a huge emphasis on quality, which is essentially our brand value. We employ approximately 200 people on product quality control and continually strive to introduce new quality standards into our manufacturing business. While this is quite costly, we think of it as crucial investment and are already receiving positive market feedback.

Since the end users of our products are nurses, we always try to ensure our products are as simple as possible to use, by focusing on the packaging. For instance, we were the first movers on the Indian market to provide infusions in multiport bottles instead of nipple head bottles. We also manufacture a full scale of packaging sizes; ranging from 5ml to 3,000ml. Producing this level of assortment is actually quite expensive, however, we plan

for the long-term so that we can satisfy our customers' every need and become their exclusive supplier.

Do you have a department that is formally in charge of R&D and innovation? What's your main source of inspiration for new ideas?
No, we don't, nor do we follow a system-based approach. Our innovation processes are market driven and we generate ideas from advanced markets, utilizing our extensive distribution network comprised of over 260 distribution points in India. We also have the largest marketing team in the country; with approximately 150 employees who are constantly in touch with our customers. We place a strong emphasis on customer relationships and our marketing staff talk with the nurses (who use our products on a daily basis) about their experiences with the products, train them how to use them properly and we even organize factory visits for them in order to build more personal relationships with them. During our sales meetings we collect the customers' feedback which we use to generate new ideas.

Before I began working at Eurolife, I made it my job to gather crucial knowledge regarding every aspect of the business; from manufacturing and engineering to distribution, as well as the pharmaceutical industry and the actual products themselves. This knowledge enabled me to collaborate with the employees much more easily and they were very receptive to accepting me into the company. I always communicate with them in an open, honest and transparent way and I expect the same in return. This attitude has become the culture in the company and this is at the core of our innovation processes. Our motto is that 'We listen to every idea', meaning everyone has the opportunity to propose an idea via email and we respond and provide feedback on every single idea received.

> *"Since the end users of our products are nurses, we always try to ensure our products are as simple as possible to use, by focusing on the packaging. Producing this level of assortment is actually quite expensive, however, we plan for the long-term so that we can satisfy our customers' every need and become their exclusive supplier*

We understand that Eurolife also spends a significant amount of resources on workforce training. How exactly do you train your workforce?
We provide a wide range of training to our employees, with the most important subject matter being product quality and new products. We organize training at a plant level, so people from different departments can not only learn together, but just as importantly, from each other. We hire training professionals, but our 15 product specialists also participate in providing training for the marketing staff. Newly hired sales professionals always visit clients with a specialist, so they

learn in the field and receive feedback regarding their performance. We also organize training to develop general skills, for example in Excel, presenting or communicating, as well as arranging motivational programs. In our opinion, effectively training the workforce is essential as they are fundamentally one of our most important ‘assets’ which is why at least 60-70% of employees participate in such training schemes.

How did you expand internationally? What is your current expansion strategy?

We currently have 4 manufacturing plants across India. While investing in a manufacturing unit is quite expensive, freight costs are lower and as such we are able to provide a 24-hour maximum delivery time by the fastest means. In 2017 we underwent a remarkable evolution, by acquiring Baxter’s infusions business in India. Baxter is a multinational intravenous infusion manufacturer headquartered in Illinois in the United States. We wanted to build a new manufacturing plant as a green-field investment but with this acquisition, we were able to save time, obtain a strong pool of talent, as well as know-how which we can utilize to expand quickly and in more regulated markets.

Though the acquisition provided us with a great opportunity, we also faced important challenges in terms of the integration process. For instance, decision making at Baxter was a rather slow paced, bureaucratic process and every single detail was taken into careful consideration. However, at Eurolife decisions are made quickly and we are fast to market because of the very competitive environment. I think these two very different cultures actually interacted with each other in a very productive manner and we learned a lot from that experience and now I am pleased to say that the integration of Baxter is fully complete.

At the moment we do not have locations outside of India, but we export to 31 countries across the globe through agents. Our principal objective right now is to set up a manufacturing plant in Europe in order to reach the markets there and later, the United States.

2001	Company founded - pharmaceutical product wholesaler
2007	Begins commercial production of intravenous infusions at Roorkee
2008	Receives WHO – GMP certification and begins exporting to over 15 markets worldwide
2010	Acquires 2nd unit in Roorkee - manufacturing oral dosage formulations
2016	OrbiMed, a healthcare-dedicated PE firm invests in Eurolife
2017	Acquires Baxter India’s intravenous business
2018	Eurolife now number 1 in the Indian I.V. fluid market

SANDEEP TOSHINWAL
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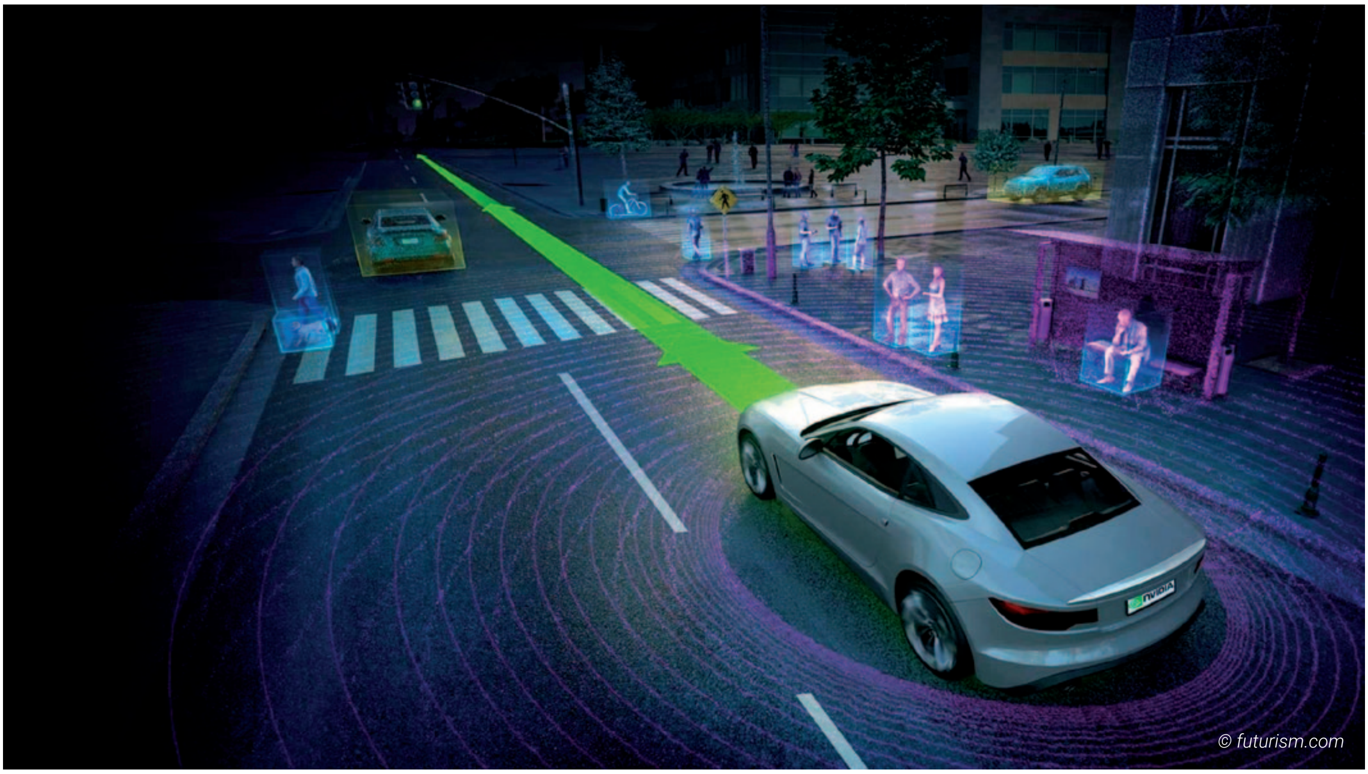
A Large Corporation, Yet an Entrepreneurial Spirit – The Ideal Buyer for Innoluce



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Two years ago, he sold Innoluce, a fabless semi-conductor company in the Netherlands, to German semiconductor Infineon. Today, Innoluce Founder & CEO, Marijn Van Os, talks to IMAP regarding his experience during the sale and transition period, the company's Lidar technology - deemed one of the most important sensor technologies for self-driving cars and autonomous vehicles - and its impact on the automotive industry

Firstly, can you start by giving us a bit of a background on Innoluce and the strategic rationale behind your decision to sell the company?

Innoluce was an entrepreneurial spin-off of Royal Philips, created back in 2010 and headquartered in the Netherlands. It is a fabless semiconductor company with strong expertise in micro-electro-mechanical systems (MEMS). We were essentially a classic Tier-2 company, looking to supply to large car manufacturers. However, there is an unwritten rule in the automotive industry; that a start-up will never become a supplier. If you take a car, which has 10,000 different parts, there's generally always one bit that fails. Conservative German car manufacturers therefore, are not going to take the risk of relying on a small company, with no back-up, for its parts. In order for us to grow, we needed to find the right supply chain company that would provide us with direct access to manufacturers. Of course, it is a difficult decision to sell a company that you have created, as you are essentially selling your own baby, but it was an essential step in order for us to be successful.

IMAP Netherlands was your advisor during the process, how key was their role in the successful closing of the sale?

We were actually working with a previous advisor, before IMAP. Unfortunately, they did not understand that this was not a classic M&A transaction, but more about developing and selling this new technology to the right partner, which is thankfully something that IMAP on the other hand, understood from the outset. Peer Joosten from IMAP Netherlands and their team, supported us and believed in the project. It's also important to have a good relationship with your advisor, which I did and still do, with Peer.

Additionally, as founders of the company and with our money at stake, this was not your typical M&A arrangement. We needed to ensure we were in full control and so came to an agreement with IMAP to use a fixed payment approach. They worked with us throughout the sales process and we closed successfully.

What were you looking for in terms of a buyer and what made Infineon the ideal fit?
Before Infineon, we had already been in contact with several other large companies. However, large companies often face lots of constraints and in terms of management style, are very traditional; driven by numbers and using the rules of physics to determine whether something will work or not. They struggled to understand the technology, how to make it work and how to make money.

Infineon, a world leader in semiconductor solutions and chips for driver assistance systems, on the other hand, was a large corporation, yet it had an entrepreneurial team. They understood that every business case is different, believed in the market and the project. From the outset I liked the Infineon team and this resulted in a very good feeling about Infineon buying Innoluce, which remains to this day. Also, based on our experience talking with the previous companies, we had better learnt how to present the company to Infineon and understand where they were in their learning cycle and the Lidar space. We achieved a fair price, which was very important to all the Founders as we were responsible for bringing it to the market and for our people.

So the company has been sold and inevitably the organizational structure has changed. How do you ensure a successful transition process?
Of course, when you sell your company, you feel responsible and want to ensure that the work your engineers began in a small company will continue once you are part of a large corporation. Dealing with the new corporate environment is challenging and from day one, you need to carefully determine your approach.

Sometimes there can be an air of arrogance in large companies who consider themselves the Holy Grail, yet they do not look outwards in order to benchmark. They really cannot imagine just what a small start-up is able to do with significantly less investment money. I believe that when a company is short of money, it can lead to more innovation. If a trial fails in a large company, the impact is not the same as it would be in a small company.

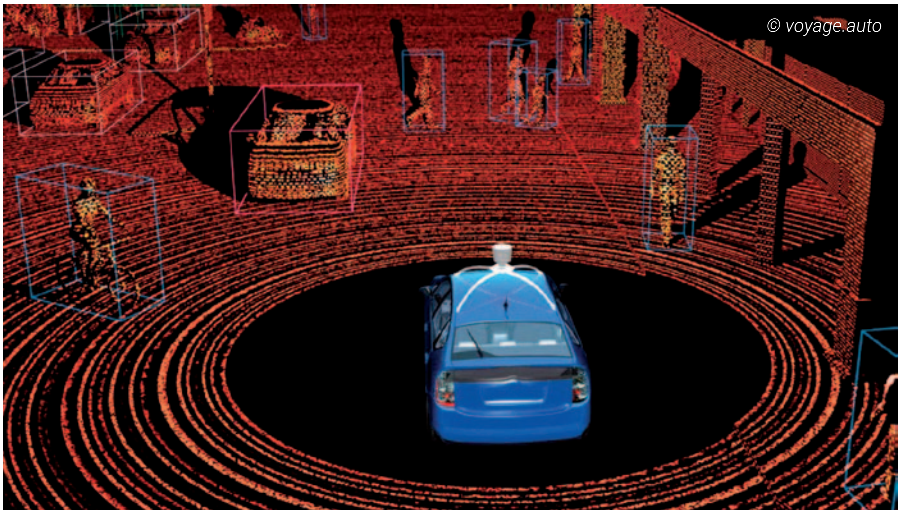
There are also large cultural differences as they tend to sell, get their money and move on – there is no continuation.

Sometimes large companies cannot imagine just what a small start-up is able to do with significantly less investment money. I believe that when a company is short of money, it can lead to more innovation. If a trial fails in a large company, the impact is not the same as it would be in a small company

On a personal level, what were the biggest challenges you faced?
I'll admit it's great now to have a nice salary and retention, but you need to work hard to defend your case. You also have to try and keep everyone happy, which is no easy feat. I guess I would say integration and cultural differences are the biggest challenges. Now we are dealing with German and Austrian teams and different behaviors and compliances. We also have to integrate teams that are on different sites into one team and there is invariably an element of competition so it takes time. All in all, it's a learning cycle.

Fast forward 2 years. Have things gone to plan in terms of your objectives for both the company and the technology?
That's a difficult one. On one hand, we have achieved a lot, but on the other, you always want to be further ahead than you actually are. The market and requirements have changed. Through the acquisition by Infineon, we have made significant progress from an automotive qualification point of view, which is visible to all. We are more qualified, our performance is good and now we need to move further in the market. Our next goal is to bring Lidar to market but dynamics are changing and we would like to be moving faster, but we have to deal with the dynamics and time constraints involved in large organizations.

The Lidar laser sensing technology has been around for decades, with Apollo 15 using it to map the moon. Since its introduction by Dave Hall, CEO of Velodyne, in a self-driving vehicle competition in 2005, it's become a key component in the race to develop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autonomous vehicle technology. What role does Lidar technology play in self-driving vehicles? How does it work?

Lidar has become the primary way most driverless cars sense the world around them, bouncing laser light off nearby objects to create 3-D maps of their surroundings and to detect other vehicles.

There are three sensor types used in autonomous driving; radar, cameras and laser lights (Lidar). Cameras can be used for lane and pedestrian detection but after 50 metres, are unable to see depth. Radar is rather coarse in resolution and picks up signals and standing vehicles, but is not yet able to detect if a vehicle if moving left or right. With Lidar on the other hand and the use of miniature lasers, there is a real-time direct correlation with distance and it has a higher resolution than radar. It is more failsafe in terms of what it can see – with functional sensors and using different wavelengths and angles it can see if something is moving towards or away from the vehicle and detect buildings or objects around it.

Self-driving vehicles need to be able to position themselves on the road and GPS is not good enough when you have 5 lanes for example, as it doesn't go below 20 metres. Lidar on the other hand, has high-definition depth and is able to calculate back, meaning it is excellent for navigation and precision. Crucially, it is able to improve the 'World Model' which is essentially what is going on around the vehicle.

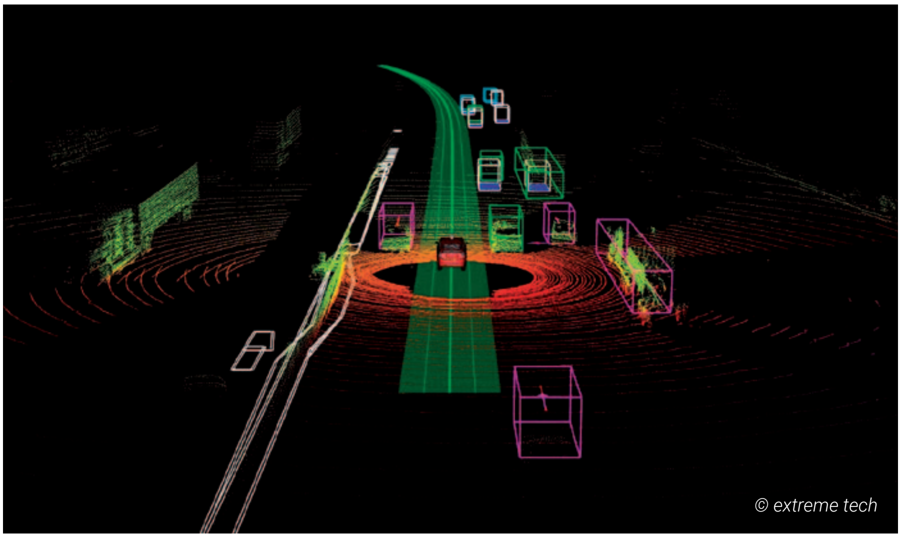
It's a competitive industry, with new start-ups such as Lumar joining the race and bringing alternative Lidar technologies to the table. Has this affected your strategy in terms of product development? How do you stay ahead of the competition and is pricing a key factor?
Lidar is hot at the moment, so there are indeed lots of new players joining the market. The solution space is large, but it is not an easy technology. Price point comes second to performance. We need to be consistent in terms of choosing the right architecture. It's impossible to create the 'best solution' as seen by everyone, so we constantly talk about compromise and need to ensure we have the 'best compromise' in the Lidar space.

Naturally, we also have to aim to be 'first' in terms of getting our Lidar technology onto the market wherever possible.

They say that autonomous driving is on the verge of commercialization, how far away do you think we are from this?
From a technological point, I would say perhaps not that far. However, implementation is far more complex. From 2020 onwards, we will see more Lidar and more professional usage. By 2020-2025, the dynamics in the market should be right for commercialization and we will see an increase in competition. Some manufacturers are already investing heavily in these technologies. Take Volvo for example, whose "Vision 2020" aims to reduce the number of people that die or are significantly injured in road accidents, to zero.

Do you think the fatal Uber accident earlier this year has caused a turn in public opinion with regards to self-driving cars?
There are so many accidents that happen on a daily basis, but of course, when one autonomous car has an accident, there is a huge scandal and irrational thinking comes into play. If we were to put all the real data available on the table and look closely at current statistics related to car accidents and how many deaths there are on the road each day, your average driver is in reality not that good. In fact, you could say that driving is too dangerous and should actually be banned or at least better regulated.

"It's impossible to create the 'best solution' as seen by everyone, so we constantly talk about compromise and need to ensure we have the 'best compromise' in the Lidar space



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TECHNOLOGY

infineon

Semiconductor solutions provider
GERMANY

Acquired 100% of the Shares

innoluce

Innovator of MEMS laser scanning modules
NETHERLANDS

IMAP
ADVISED ON SALE OF COMPANY

By using these new technologies, drivers won't need to make the hard decisions which are directly related to accidents. In fact, self-driving features will make driving smoother and more efficient. There will be less traffic jams and subsequently less accidents.

What is your objective in terms of Lidar becoming a standard feature in all car classes? How can this be achieved?
Our aim is that Lidar does indeed become an affordable, standard feature in all car classes. We want cars to have the ability to detect all objects around them in high resolution. Our first step in the process was to sell to Infineon. Now we need to try and educate the market and show exactly what our sensors and our data are capable of. We also need to look at connecting OEMs all the way to Tier-1's.

What does the future hold for Lidar and what are your predictions for the impact it will have on the automotive industry?
There are already many autonomous features in cars today. I drive a Level 2 partially automated vehicle, with both adaptive cruise control and lane control (pilot assist), which I like as it provides a safe feeling when driving. However, we are still some steps away from a Level 4/5 fully automated vehicle. When we do get there, more and more people will be ordering their automated Uber, creating less traffic on the road, there will be less accidents and the issue of parking, which is a significant issue across the globe, will be resolved. You will be able to sit back, read your emails, log-onto social media, read a book or work and be more productive during your commute. There will be a new way of driving; vehicles will travel at slower speeds and communicate with each other and driving will become safer.

In order to move towards safer driving, I believe autonomous driving is the way to go. We need more sensors, looking from different angles, which Lidar provides and it looks to become the primary way most driverless cars sense the world around them. Our technology is bringing us closer to this goal.

Of course, people will need to be educated and essentially learn how to 'un-drive' their vehicles. We will need to adapt to the feeling of cars steering, breaking, driving and thinking for us which is a challenge, but this new way of driving will ultimately, be a safer form of driving.

MARIJN VAN OS
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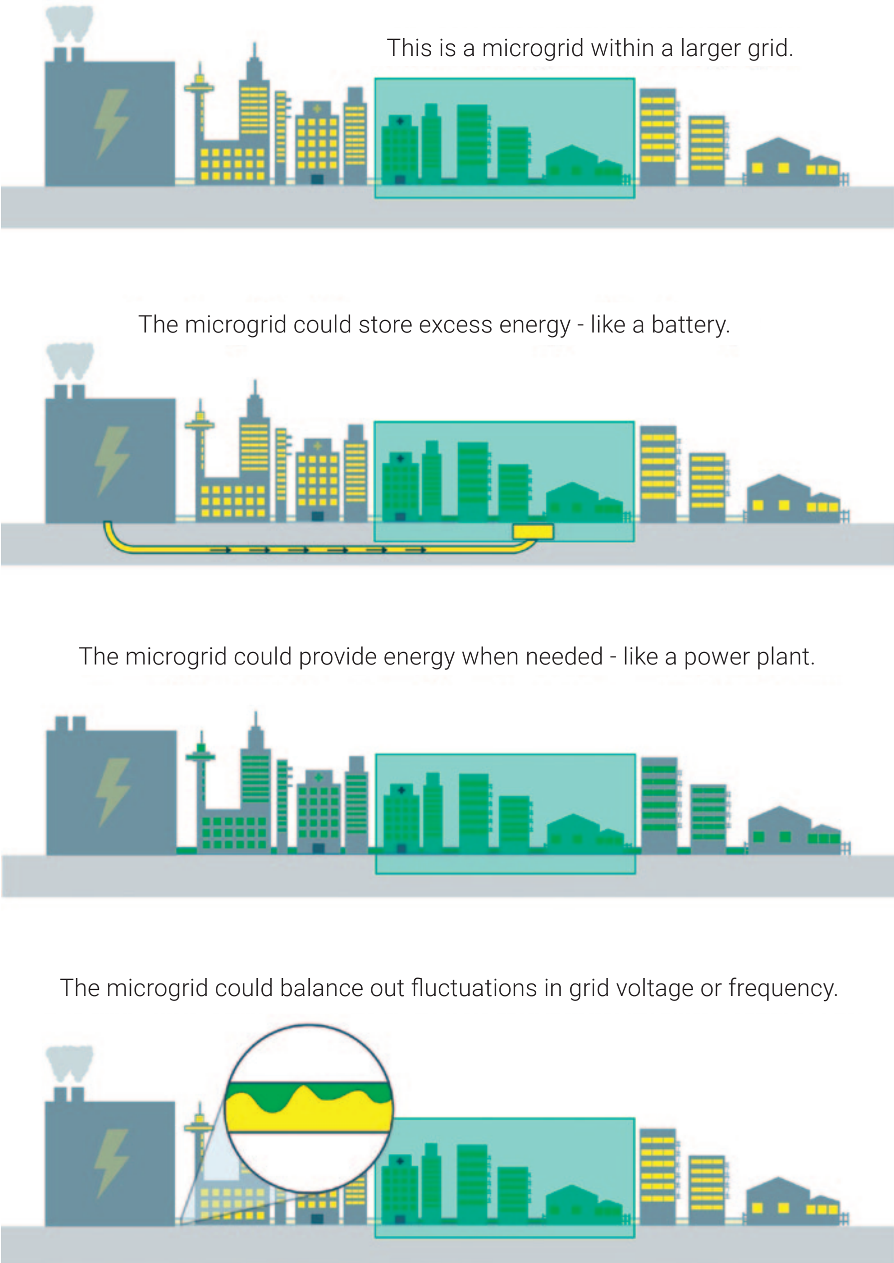
Microgrids – A Top Contender in the Race to Provide a Solution to Rising Disruption in the Evolving Global Power Market

We are currently seeing disruption across the entire energy sector. With traditional electricity generation giving way to sustainable and cost-effective alternatives, renewables and storage look to be where future growth opportunities lie. Therefore, it is not surprising that more and more large players are taking a serious look at alternatives such as microgrids, which have the potential to dramatically transform the way in which we both produce and consume energy.



Source: www.vox.com/energy-and-environment

CALLS FOR A GREENER, MORE RESILIENT AND RELIABLE SOURCE OF POWER SUPPLY

So what is the big deal with microgrids? The concept of course, is not a new one. Indeed, before they were joined into regional and national grids, the earliest electricity networks were essentially microgrids. Both consist of power generation, distribution and controls. However, there are many key factors that set microgrids apart, the first being reliability. Local energy grids, known as microgrids, are small scale, self-sustaining power networks. Therefore, they have the capacity to work in parallel with and independently from the national grid. When needed, microgrids can disconnect from the grid and function autonomously. By means of isolating their generation nodes and power loads from disturbance, they can operate without affecting the integrity of larger grids. In addition, during peak usage, storms and power outages or in case of a grid failure, they also have the capability to feed power back to the grid. In today's modern world, providing high-quality power to facilities such as hospitals or data centers is crucial, where even the briefest outage can be highly detrimental.

Perhaps more importantly though, is the fact that unlike traditional grids, microgrids can be powered by and integrate with, renewable energy sources. Though they can be run by traditional means including generators and batteries, the focus is now on finding and integrating greener, sustainable energy sources, such as wind and solar power, geothermal, waste-to-energy, small hydro and combined heat and power (CHP). Microgrids have the benefit of being able to make use of local resources that are perhaps too small or unreliable for traditional grids. In addition, by closely linking power generation and power use, microgrids can be more efficient.

ACQUIRING COMPETENCIES AS OPPOSED TO GROWING ORGANICALLY

With advancements in technology and cost improvements, it is likely that microgrids will be increasingly embraced across the globe as utility companies look to make targeted investments in environmentally sound solutions for the future. Indeed, it appears that many utility giants have been on a grid edge shopping spree recently, with significant investments related to energy storage.

Shell's investment in microgrids and distributed energy in their recent acquisition of a majority stake in GI Energy, which IMAP Falls River Group (FRG) recently advised on, validates this trend. The oil major made the acquisition through Shell New Energies, a business it launched in 2016 to explore commercial models that support the world's energy transition. This is further reinforced by Sidewalk Labs' recent investment in GI Energy. Set up in 2015, Sidewalk Labs is an urban innovation organization run by Alphabet Inc., Google's parent company. Its goal is to improve urban infrastructure through technological solutions, tackling issues such as cost of living, efficient transportation and energy usage – this recent transaction in line with the latter.

As more large players embrace the new trends and begin to reinvent themselves, we could see an increase in large acquisitions in the near future. By investing out with their core business, companies can look to de-risk their business model and in some cases, compensate for declining revenue streams. Recent M&A activity indicates that rather than growing organically, companies are proactively buying into companies and markets.

2017 Grid Edge Investment by European Giants

2018 Grid Edge Investment by European Giants

Source: GTM Research Grid Edge Data Hub.

Image Credit: GreenTech Media

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Clean Disruptions in Energy & Transportation

S-curve adoptions could be happening quicker than we think

CLEAN DISRUPTIONS

- Historically, technological disruptions follow an S-curve and the technology is adapted exponentially at the first half of the S-curve.
- S-curves are getting steeper and technological developments are adapted even faster than before, driving cost curves of new technologies down rapidly.
- Tony Seba considers five main 'clean disruptions' that could rapidly change the energy and transportation sectors:
  - Batteries (technology)
  - Electric vehicles (technology)
  - Autonomous vehicles (technology)
  - Ride-hailing (business model)
  - Solar (technology)
- TaaS-model (transport as a service) with ride-hailing will decrease the total fleet significantly and increase vehicle utilization rate, leading to more efficiency.
- Some islands have already switched from diesel-generation to being 100% solar-powered since solar-generation (and storage) is already more economical than diesel-generation.
- Self-driving taxis are already available in Singapore.
- While McKinsey projects oil demand to peak in 2037, Tony Seba predicts the peak in oil demand in 2020 and a long term equilibrium price at USD 25 per barrel.

- The solar PV (photovoltaic) cost curve has been decreasing by approximately 11.5% per year, while the solar PV installed capacity has grown at a CAGR of approximately 40% from 2000 to 2016.

- According to PWC, 69% of corporations are actively pursuing solar PV purchases for energy generation since it is more economical.

- The cost of unsubsidized solar PV generation on rooftops will drop below the cost of transmission in the upcoming years, making it highly attractive for corporations as well as households to switch to self generation with the distributed energy model. This development threatens the centralized power generation system and thus energy generation using natural gas, coal and nuclear.

- Technological disruptions are in progress, and the speed of adoption will determine developments in the near future.

Source: Tony Seba (Stanford University) speech in Boulder, Colorado. Awarded the 2017 Sunshine award by Clean Energy Action, filmed by the Colorado Renewable Energy Society.

Additional information can be found in the Oil & Gas sector report published by experts from the IMAP Netherlands team. (www.imap.com/publications)

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Hybrid Capital Solutions to Support the Next Phase of Inclusive Growth

Innovative hybrid capital solutions sitting between debt and equity are opening up new possibilities for financial institutions with broader developmental impact in emerging markets. IMAP South Africa is launching a hybrid capital fund of its own

The Inclusive Financial Institution sector has grown significantly in Africa and elsewhere, driven in part by the growth of the global specialist investor base supporting the sector and the growth of local debt markets. In Africa, this growth has left the equity capital bases of many institutions and of the sector as a whole, stretched, due to the narrow range of equity and equity-like capital sources and instruments available to Inclusive Financial Institutions.

Hybrid capital is an intermediate capital-type, sitting between debt and equity and provides regulatory capital to banks and financial institutions. Hybrid capital in Africa can provide both a solution and funding that can be leveraged by specialist global (debt) investors and local debt investors, thereby achieving a multiplier of the developmental impact: *"crowding-in."*

The term *"Inclusive Financial Institution"* has been coined by market participants to describe financial institutions with a broader developmental impact than traditional banks, including those which are extending financial services to unbanked populations and smaller companies. The impact of African commercial banks on broad-based economic development can be narrow, with focus being on lending to multinationals and the largest local corporates and investing in government bonds and bills.

Focus activities for Inclusive Financial Institutions, include, *"traditional microfinance,"* (micro-loans for sole-traders and micro-entrepreneurs) lending to SMEs (often described as the *"missing middle"*), housing finance, or specific segments such as education finance, health finance or agri-value chain financing. Some Inclusive Financial Institutions focus on specific asset classes that disproportionately appeal to small and medium-sized enterprises, e.g. leasing, invoice discounting or merchant credit advances.

Other positive impacts, which help define an institution as an Inclusive Financial Institution, include providing access to simple savings products, through deposit mobilisation. Fintech-oriented institutions can often be considered Inclusive Financial Institutions, especially if their core technology is used to reduce transaction costs and enable services such as borrowing, savings or payments offered at a micro-size. The term *"microfinance"* is often used as a catch-all to describe the full range of such institutions and the global specialist investor base is typical described as *"microfinance investment vehicles"* or *"MIVs."*

Over the last decade and a half, many Inclusive Financial Institutions have seen tremendous growth in terms of size and scale, whereby they have transitioned to full banking licences. Perhaps the most famous example is Equity Bank in Kenya. More recent examples of such transitions, include Ghana Home Loans, or in many markets of its operations, pan-regional group Letshego. Growth in the sector has been driven in part by the growth of the MIV investor community. According to the Symbiotics MIV survey in 2017, the global asset class is now USD 15.8 billion, which represents an increase of approximately 8.0x versus comparable figures 10 years earlier. The community of MIVs, has established itself as a niche asset class in the global investment universe. The growth of this asset class is testament to the strength of its financial performance, having delivered a positive return every year since 2006, with a much lower volatility than other fixed income benchmarks such as the JPMorgan Global Bond Index.

The growth in MIVs in many markets has been matched by the growth in local bond markets, with institutions such as Madison Finance in Zambia, whose first bond issue was in 2016 and afb in Ghana, whose first bond issue was in 2015, blazing a trail for other Inclusive Financial Institutions to follow in their respective home markets.

This growth in debt funding shows the imbalance between the equity and debt capital available, which is confirmed by the fact that 76% of the assets under management of the MIVs globally, is represented by debt funds. IPO-markets in Africa are in many cases highly illiquid and Inclusive Financial Institutions are too small to tap the IPO markets effectively, i.e. to offer an IPO large enough to create meaningful liquidity in the secondary market. The contrast between Africa and other markets is stark. According to Caspian Impact Adviser, a leading Indian MIV, since 2011, 72 Indian microfinance institutions have launched IPOs, compared to only 17 on the African continent.

Hybrid capital describes a range of instruments from subordinated debt, to preferred equity, which are popular in the banking sector globally, but rarely available to financial institutions in Africa. Hybrid capital instruments enable regulatory capital to be tiered according to factors such as its degree of subordination, tenor and loss-absorption capacity. It also allows for features such as redemption, exit and contractual term to be fixed, to balance the requirements of regulators in each jurisdiction with the needs of investors. Finally, and perhaps most importantly, it brings new investors into play, which otherwise might not have considered providing regulatory capital to Inclusive Financial Institutions in Africa. Typical Inclusive Financial Institutions leverage their regulatory capital 4 or 5 times with senior debt, in other words, their regulatory capital typically represents 20-25% of their total assets. An investment of USD 100 into hybrid capital instruments facilitates loans for USD 400 - USD 500 to small or medium-sized enterprises, schools or home-buyers.

Verdant Capital (IMAP South Africa) will be launching the Verdant Capital Hybrid Fund, which will invest hybrid capital into Inclusive Financial Institutions in Africa. The fund is a limited partnership, established under the laws of Mauritius, with a 12-year life and a targeted size of USD 80 million. It has secured initial approval for a commitment from its anchor investor, a leading European development finance institution and expects to close next year.

> "
> *Hybrid capital in Africa can provide both a solution and funding that can be leveraged by specialist global (debt) investors and local debt investors, thereby achieving a multiplier of the developmental impact: 'crowding-in'*

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Digitization in the Automotive Industry

Current mega-trends in the automotive industry are importants drivers for M&A. IMAP Germany recently advised SemVox GmbH, a leading B2B Technology Supplier for AI and machine learning-based proactive digital assistants, on the majority sale to listed Tier-1 Automotive Supplier, Paragon GmbH & Co. KGaA

DIGITAL ASSISTANTS AND THEIR ORIGIN

Digital assistants are becoming more and more important and widely used, as they provide a new level of convenience regarding the use of technical devices. The control method/modality, be it voice, gesture or touch, is secondary and the latest generation of digital assistants are capable of processing input from all modalities, i.e. they provide Multimodality.

The history of digital assistants actually has its origins back in the early 60s, when IBM first introduced a digital speech recognition tool. Many years later in 1990, the first consumer focused and commercially sold dictation solution followed; Dragon Dictate. The first of the most well-known and currently used digitals assistants was Apple's Siri, introduced back in 2011. Other big players like Google, Amazon and Microsoft have followed in recent years and the pace of development has accelerated.

SEMVOX; A NEW GENERATION OF SPEECH TECHNOLOGY

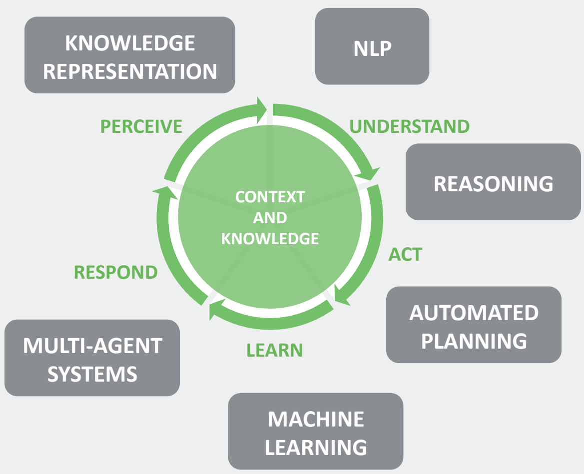
The introduction of voice assistants in passenger cars has brought about a new level of safety with drivers no longer having to remove their hands from the steering wheel. SemVox's latest generation ODP S3 platform provides voice control software for conversational, context-aware and natural interaction, using AI technologies and machine learning. The SemVox solution may be interlinked with, among other things, the user's calendar and address book, enabling them to make appointments and phone calls etc. from their cars, thereby using driving time more efficiently. Due to its context-awareness and machine learning technology, the SemVox solution can anticipate and learn user requests and preferences, thus shortening required dialogues.

SemVox's solutions distinguish themselves from competitors' solutions, because they run as embedded software on the devices themselves. This means no requirement for permanent online connectivity and it is not only adaptable to customers' specific requirements but also provides them full control over the data. The latter is a significant differentiator compared to digital assistants from the large US tech companies, as it enables the OEMs to remain in control of the data produced. In addition, OEMs can give their digital assistants a personal, brand specific touch and feel, or voice and dialogue respectively.

The technology stack provided by the **SEMVOX.AI PLATFORM** supports the **cognitive architecture** of a smart assistant. All processing is based on **semantic models** that are formally represented by means of **ontologies**. This enables **rule-based reasoning** for deriving additional knowledge and contextual information.

In complex use-cases, **automated planning** techniques are employed to solve user goals. In the background, **machine learning** technology is utilized to acquire insight into and adapt to the user's domain and interaction preferences.

Several methods of **natural language processing** are combined to communicate with the user, among them are **natural language understanding** (NLU), **natural language generation** (NLG) and **discourse theory**.



SEMVOX COMBINES MULTIPLE AI TECHNOLOGIES TO SOLVE VARIOUS CHALLENGES IN THE COGNITIVE LOOP OF A SMART ASSISTANT

"Please find a restaurant for tonight."

- **CONTEXT:** time + location via calendar
- **LEARNED PREFERENCE:** French food
- **PROACTIVE:** proposal for table booking

"I have found the highly ranked French restaurant "Sure et Sel" close to the location of your theater visit at 9 pm. Shall I book a table?"

"Sounds good. Please reserve a table for two and send an invitation to Peter."

- **LEARNED PREFERENCE:** way of communication

"I have made the reservation and I have sent the invitation to Peter via SMS."

"How is the weather going to be this evening?"

- **CONTEXT:** location derived from discourse

"The weather in Berlin tonight will be nice at 20 degrees."

> *SemVox's solutions distinguish themselves from competitors' solutions, because they run as embedded software on the devices themselves. This means there is no requirement for permanent online connectivity and it is not only adaptable to customers' specific requirements but also provides them full control over the data*

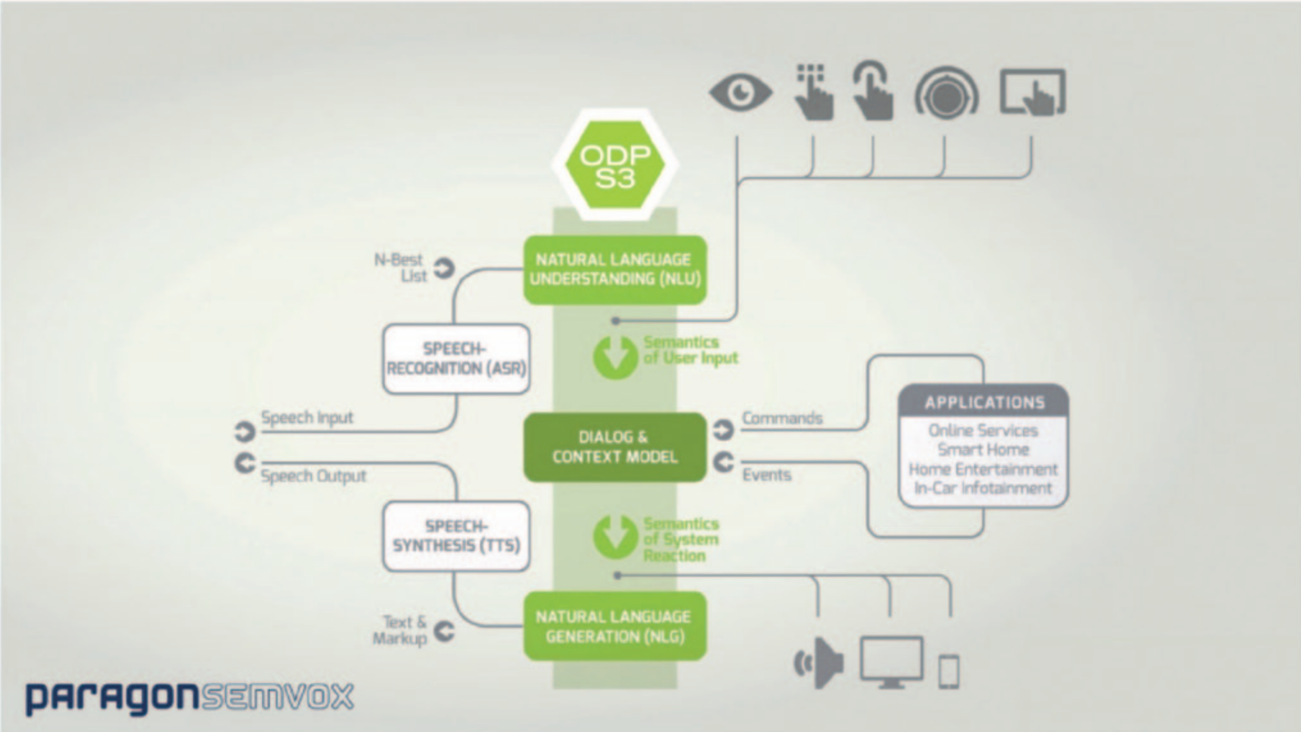
SemVox successfully introduced its AI-based platform solution for smart digital assistants to the market in late 2017, when AUDI launched its latest A8 model incorporating SemVox's technology. Due to the superiority of the technology, it will be employed in many other models of VW Group including Porsche. Over the next five years, the Company expects that more than 13 million vehicles will be equipped with SemVox solutions.

A STRATEGIC PARTNERSHIP AND SYNERGY

In order to secure its competitive edge and further develop the technology platform, SemVox, a founder run company

Technology	Embeded	Cloud	Context	Multi-modality	Adaptation	Full data control	B2B
ODP S3	✓	✓	✓	✓	✓	✓	✓
G	✗	✓	✓	✗	✓	✗	✗
Microsoft Cortana	✗	✓	✓	✗	✗	✗	✓
IBM Watson	✗	✓	✓	✗	✓	✗	✓
amazon alexa	✗	✓	✓	✗	✗	✗	✓
Hey Siri	✗	✓	✓	✗	✓	✗	✗

ODP S3 SYSTEM OVERVIEW



from Saarbrücken with 60 employees and mid-single digit million Euro sales, decided to collaborate with an investor to secure the required financial firepower. In listed German Tier-1 Automotive Supplier, paragon AG, SemVox found a partner which also brings strategic synergy potential, as paragon serves a broad OEM customer universe and provides a complementary product offering. SemVox and paragon are pursuing the goal of significantly expanding their range of integrative solutions. In addition to products and systems including sensors, interiors, body kinematics and E-mobility, paragon will also provide customers with hardware and software for the development of speech assistance systems. Following its acquisition of SemVox, paragon is increasingly developing into a Full-service Provider for OEMs.

IMAP Germany ran a structured M&A process, approaching several different classes of potential investors, including strategic partners, as well as financial partners such as venture capitalists. After a full evaluation of the interested parties, the best option for SemVox was a partnership with paragon. The transaction not only secures the capital needed to for future investments into the technology and expansion, but also offers synergistic potential for an even faster development and broader product offering.

The shareholders of SemVox sold 82% of their shares to paragon, with the founding team holding the remaining shares. Simultaneously, paragon and the founding team entered into a put/call option agreement for the acquisition/disposal of the remaining shares over the next 3 years.

TECHNOLOGY

paragon.

Automotive Tier 1
GERMANY

Acquired Majority Control of Business Operations

semvox

Voice control and assistance software platform
GERMANY

IMAP
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The Journey to Becoming the European Leader in the Poultry Industry

In June 2018, LDC Group, a significant European player in the poultry business and listed on the French stock exchange, announced the signing of a contract to take over 70% of a leading Hungarian waterfowl and chicken provider, Tranzit Group. Following approval from the German competition authorities, the deal was closed at the end of August and thus, the European poultry market leader was born. IMAP sat down with Denis Lambert, LDC Group Chairman & CEO, and Philippe Gelin, International Group Head, to discuss this landmark deal

If we go back in time 2 years, what was your main objective with the overhaul and restructuring of your international operations?

DL: LDC has been present in international markets for many years and we export a lot of our French products internationally, which is taken care of by our business lines. Back in 1995 we took over a Spanish company and later in 2000, a company in Poland. We also had a joint venture in China. Unfortunately, some of these initiatives didn't work quite as we had expected. In Spain, for example, we had to reorganize our company by merging it with a larger player, becoming minority owners. In China, the JV didn't perform as planned so we sold our stake and withdrew. Meanwhile, the Polish operation has actually performed well. Overall, we stabilized our international organization and as you mentioned, 2 years ago we subsequently set up a new team, headed by Philippe, in order to identify new international opportunities.

PG: Yes, indeed, our main activity as a new team, together with another colleague who supports us in terms of financial calculations and market intelligence, is to identify new opportunities, be it a new market, a new partner, or even new acquisition targets. However, our task doesn't start or end there; it is our job to ensure that the international holding companies are adequately integrated into our operations. Thus, as well as working on identifying new opportunities, we continue to work with the already existing subsidiaries; in Spain, Poland and since this year, Tranzit in Hungary.

As a result of this focused international activity, you concluded the transaction with Tranzit Group in Hungary this year. Why Hungary and what made Tranzit the ideal acquisition?

PG: Hungary is a major producer of poultry, mainly in the waterfowl segment. Tranzit is a major exporter of geese into Germany and duck into global markets – 95% of its waterfowl production is sold in international markets. On top of that, Hungary has something else in particular that we liked; the largest companies are fully integrated, meaning that farms, upstream poultry production and the slaughterhouses, the downstream production and everything in between, are integrated. This is something that doesn't occur, for example, in France. Besides that, Tranzit is a great company with good margins. We also saw opportunities for development, as here at LDC we have gone much further into elaborated products (poultry products which are further processed through breeding, roasting or producing other processed products, vis-à-vis selling the poultry meat in its raw form). In addition to growing the core business, we plan to invest in processing facilities with Tranzit.

This transaction put you as the uncontested No 1 on the European poultry market. What are your thoughts on this?

DL: Frankly, our position on the European or global markets isn't our number one priority, what is more important, is profitability; we never make a move merely to gain market share. Every development we undertake is designed to make a sound economic return, regardless of the impact on company size. The poultry business is difficult – we have all seen those players that forgot returns and focused only on volumes; most of which have already disappeared.

What were your transaction experiences in Central Eastern Europe?

PG: Though LDC is a listed company, we remain by and large, a family run business. All 4 of the families that brought LDC together remain with the company and we have managed to hold onto the advantages of being a family company. With Tranzit, we found a similar company; also family-owned and family-run and managed according to very similar principles as LDC, which provided us a great deal of comfort during the transaction. Our experiences have been positive with this transaction; for example, even though it is a very tight-knit circle in Hungary and internationally and the whole process took almost a year, everyone was surprised by the news when the first announcement was made. No one got wind of the transaction, even with us undertaking all the necessary due diligence that is customary in these situations.

How do you intend to run these larger international operations going forward?

DL: For the foreseeable future, we are determined our company remains a family-run business, versus a multinational firm. That is why we look for opportunities that enable us to amalgamate with companies, businesses and business owners that have similar goals. You know that we haven't, for example, acquired 100% of Tranzit; the Szabó family kept 30% of the business with the intention of growing the business together with us.

How do you find this works in practice?

PG: In reality, we do very little in terms of our international operations out of our headquarters. Obviously, for us as a listed company, consolidated and coordinated financial reporting is very important and we still have a lot to do on this front. Our international sales efforts are coordinated across the group and though strategy and budget approval are done centrally, all daily operations are undertaken by our subsidiaries. Of course, the sharing of knowledge and best practices is ensured, but for the most part, this is left for the companies to manage themselves. At the end of the day, we have a small international team and we can't do everything ourselves.

In terms of your strategy for the future, what are your plans for LDC?

DL: Following the recent domestic acquisitions, France has become too small for us. Therefore, we need to focus our development effort on the international markets. We have a couple of projects already lined up and we are constantly looking for new opportunities in Europe. In fact, I'm sure you will be hearing further news regarding acquisitions by LDC in the near future.

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Chairman & CEO, LDC Group

PHILIPPE GELIN
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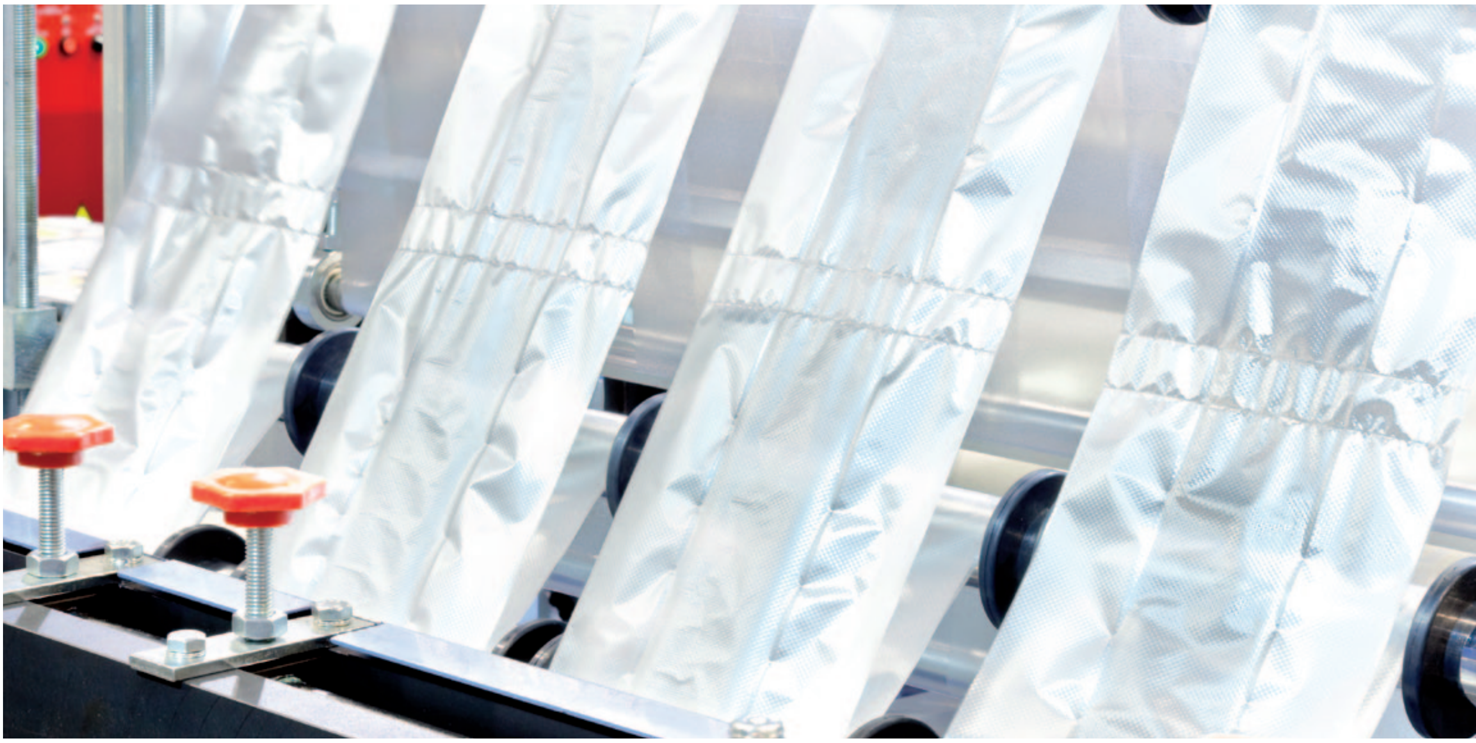
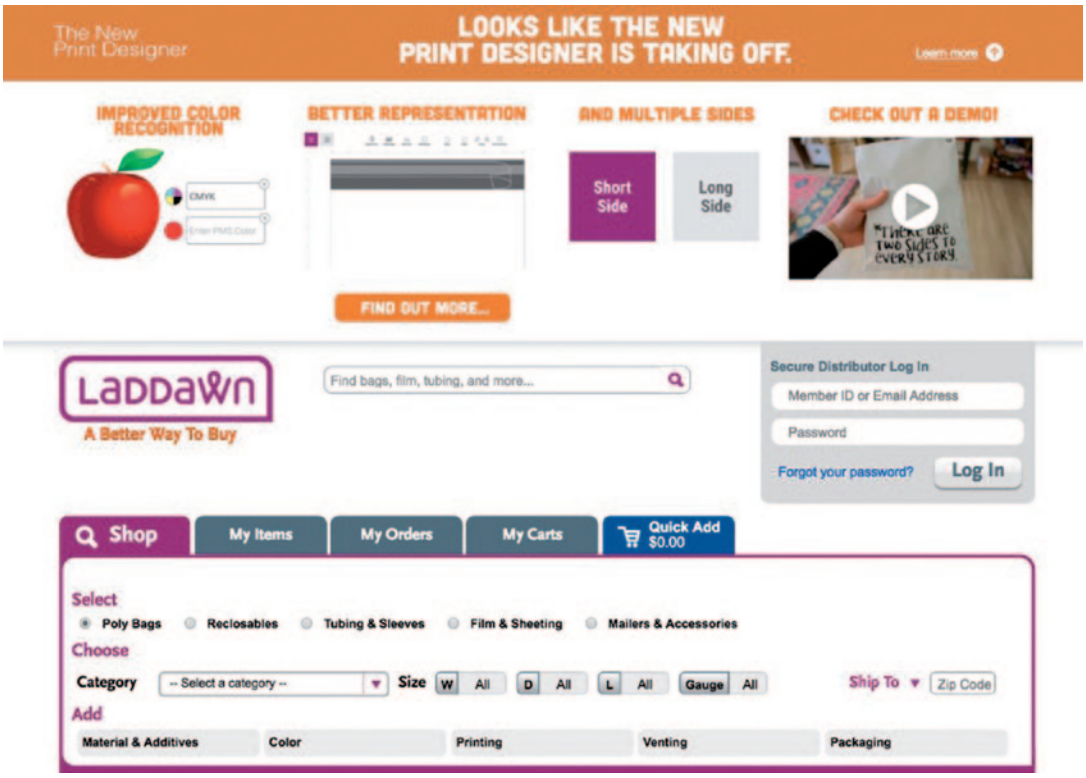


Plastic Packaging Manufacturer Laddawn Brings Unique e-Commerce Platform to the Table

Laddawn's sale to Berry Plastics marks a high-profile acquisition in the plastics and packaging space, with consolidation accelerating on a global scale

DEAL HIGHLIGHTS

- IMAP partner Capstone Headwaters (CSHW) advised Laddawn, Inc. (Laddawn) on its sale to Berry Global.
- Laddawn manufactures plastic bags and films for packaging applications, including poly bags, re-closable bags, tubing and sleeves, film and sheeting, mailers and accessories, as well as custom products. It offers its products online, with a proven, unique-to-industry e-Commerce web and mobile sales platform.
- Berry is a leading global supplier of a broad range of innovative non-woven, flexible and rigid products used every day within consumer and industrial end markets. Berry, a Fortune 500 company, generated $7.1 billion of sales in fiscal 2017.
- "In Berry Global, we found a partner who could take our e-Commerce advantage and our people, further than we could go alone. Those opportunities were important to us," stated Ladd Lavallee, President of Laddawn.



Laddawn has become a distributor resource center via a technology platform that provides distributors instant pricing and availability on stock and custom products and tools that improve distributors' daily workflow, thereby becoming distributors' preferred search, ordering, fulfillment and workflow platform.

MARKET OUTLOOK

- This transaction represents another high-profile acquisition in the plastics and packaging space, with consolidation accelerating on a global scale.
- The sale also highlights a major trend in the packaging industry; large players recognizing how e-commerce packaging needs are driving demand for short-run and quick delivery of stock and custom packaging. Additionally, large players are recognizing customers' need for instant pricing and product availability and tools that increase efficiency around the ordering and fulfillment processes.
- This represents a strong business development opportunity for IMAP to leverage the deal in the flexible packaging market, with a high-profile buyer and strong valuation story.

VALUATION SUMMARY

- Laddawn has a proven track record in delivering strong organic growth; generating over $145 million of net sales for the twelve months ended July 31, 2018. It has 380 employees, with 5 manufacturing sites spread across the United States.
- While EBITDA multiples range from 5-9x for this market, CSHW achieved a significant premium in this transaction.

IMAP APPROACH

- CSHW achieved every one of the shareholders' transactional objectives, including maximizing enterprise value.
- By leveraging its deep knowledge of the plastics and packaging sector, along with its expertise in e-Commerce, CSHW was able to appropriately position Laddawn as a technology-enabled, custom packaging provider, in an extremely competitive process that included both private equity and strategic bidders.
- This transaction represents a very successful outcome for a company that is uniquely positioned in the industry to take advantage of consumer and e-Commerce trends.
- Laddawn represents the 10th successful transaction for CSHW in the packaging space, and the 4th e-Commerce-related transaction over the past 3 years.

CLIENT COMMENT

LADD LAVALLEE
Co-President, Laddawn:

"We expected the people of Capstone Headwaters to be smart and hardworking, but we discovered they were also genuinely good and caring. We'd use Capstone again and again because of their character, as much as for the very good results they achieved."

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Degroof Petercam – IMAP's New Member Firm in France and Belgium

IMAP welcomes new partner Degroof Petercam as its exclusive corporate finance partner for M&A activities in Belgium and France. We profile IMAP's newest partner firm and spoke with François Wohrer, Group Head of Degroof Petercam Investment Banking

IMAGINING TOMORROW SINCE 1871

Degroof Petercam has an impressive history dating back to 1871. It was founded by Franz Philippson and other visionary entrepreneurs, including Jean Peterbroeck and Etienne Van Campenhout, contributed to its development. As a bank of entrepreneurs for entrepreneurs, Degroof Petercam has a clear long-term vision and strong company values. Its mission: to empower its clients to achieve their ambitions, today and tomorrow. For decades it has actively taken care of the assets of both private and institutional clients.

Fiercely proud of its history and reputation, Degroof Petercam remains family owned, with 70% of the firm in the hands of family shareholders, including the Philippson, Peterbroeck and Van Campenhout families. The long-term shareholdership continues to be the anchor of the firm's capital, creating agility and stability throughout generations and ensuring that the group's interests are perfectly aligned with those of its clients.

TARGETED GROWTH STRATEGY LEVERAGING DISTINCTIVE BUSINESS MODEL

Degroof Petercam has a workforce of approximately 1,370 professionals across its 8 locations throughout Europe. At the end of 2017, the firm managed assets of €55 billion. It intends to achieve its growth ambitions by leveraging its distinctive business model. The group offers a unique combination of services in Private Banking, Institutional Asset Management, Asset Services and Investment Banking. There is still a lot of potential for targeted, focused growth; becoming stronger, larger and with deeper penetration in select current locations.

STRONG MARKET PRESENCE IN MID-CAPS, SME'S AND FAMILY BUSINESSES

Degroof Petercam Investment Banking is one of the very few independent operators in Europe offering integrated investment banking services covering both advisory and financial markets execution. It assists its clients on a full spectrum of services, including M&A Advisory, Debt Capital Markets, Equity Capital Markets, Derivatives and Forex, amongst others. It offers full sector coverage, with special strengths in Real Estate and Bio-tech. Both sectors, especially in the Belgian market, have become increasingly important - in Belgium there are a significant number of companies listed in Bio-tech and people in general love real estate.

> *Taking advantage of the strong brand name we have in the French and Belgian markets and IMAP's experience and international footprint, will enable us to expand our international reach*

SUSTAINABLE INVESTMENTS AND COMMITMENT TO PHILANTHROPY

Degroof Petercam's responsibility to society extends beyond its client focused activities and services. It has spent the last decade focusing on solutions for sustainable investments. It also has a dedicated Philanthropy Department and 10 years ago, founded the Degroof Petercam Foundation (DPF), with the objective of creating an all-inclusive society in which all people have a chance to thrive, by focusing on solutions that provide skills, entrepreneurship and job market support.

JOINING IMAP - COMPANIES CAN'T AFFORD TO LOOK JUST NEXT DOOR TO THEIR NEIGHBORS

According to François Wohrer, Group Head of Degroof Petercam Investment Banking, it has become obvious that in mid-cap, just like in large-cap, companies simply cannot afford to focus solely at a domestic level. With 30% of Degroof Petercam's business being cross-border, it's not enough to look just next door. M&A advisors must internationalize and prove to their clients that they are able to bring international targets or buyers to the table, leaving no stone, i.e. potential candidate, unturned. Therefore, on his appointment, internationalizing the business was a key point on his agenda and M&A roadmap. "Our brand is well recognized in our markets and becoming increasingly powerful, so we believe it is important and the right time, to collaborate with a global partner. We are pleased with our new partnership which we believe will be mutually beneficial; taking advantage of the strong brand name we have in the French and Belgian markets and IMAP's experience and international footprint, will enable us to expand our international reach."

FRANÇOIS WOHRER, GROUP HEAD OF DEGROOF PETERCAM INVESTMENT BANKING

François has been with Degroof Petercam just shy of 4 years and is the Group Head of Investment Banking.

VERY DIVERSE BEGINNINGS AND AN UNEXPECTED TWIST IN HIS PROFESSIONAL JOURNEY

François began his professional career as a Civil Servant, working for 2 years in Togo, Africa, restructuring the banking sector and promoting the private sector. He then moved to Washington DC, where, as an Investment Officer at International Finance Corporation / The World Bank Group, he was involved in several privatizations across the world, including Electricity in Brazil's Nordeste and Haïti, the Water sector in the Philippines and in Gabon, as well as Kenya's National Airline.

With the thought "why not do the same, but as an Investment Banker rather than as an International Civil Servant?" combined with a penchant for the British culture (François was educated at the London School of Economics), he left Washington and joined Warburg in the UK, where he remained for 6 years. When he wasn't changing his business card due to the many company mergers (Warburg eventually became UBS), he spent his time doing M&A and Investment Banking, primarily in the Industrial sector (specifically Metals and Mining). In 2003, he moved from the UK to the company's office in Paris, where he contributed to the development of the UBS Investment Banking franchise in his native country, working on transactions such as the Arcelor/Mittal merger, as well as the GDF/Suez merger (to create Engie).

Following 12 years at UBS, in 2009 he was enlisted by Close Brothers (now DC Advisory), at the time the last remaining independent British boutique investment bank, to develop its advisory business in France, which he duly did. The business was later sold to Daiwa Securities. It was just around this time, that out of the blue, he was Headhunted and offered the role of CEO of the French subsidiary of BBVA, one of the largest Spanish banks. François recalls, "I was surprised by the offer; after all, here I was, having spent over 17 years in Investment Banking doing M&A, with no balance sheet, suddenly being offered to run a big commercial bank with €8 billion total assets".

However, with a zest for adventure and enjoying challenges outside his comfort zone, he took the plunge and made the leap into management. The role was indeed challenging and he spent the next

RECENT TRANSACTIONS

RETHMANN®

acquired Veolia's 30% stake in

transdev
the mobility company

Advised the Acquirer
October 2018

ARDIAN

acquired a 60% stake in

assystem technologies

Advised the Acquirer
September 2017

GROUPE ATLANTIC

acquired

ACV
EXCELLENCE IN HOT WATER

Advised the Seller
August 2017

4 years reorganizing and restructuring the French subsidiary. One of the challenges of managing a bank, according to François, being so regulated and under such scrutiny, is finding the balance between management and still getting the time to deal and meet with clients, which can be tough.

After a very successful first stab at management, especially taking into account the financial crisis suffered by Spain during this time, François didn't think twice when approached by Degroof Petercam to reorganize its French business. Fast forward 3 years and with the business in good shape and now doing well, it was time for a change and thus François took over Degroof Petercam Investment Banking in Brussels, where he remains today. Charged with integrating the business both within the firm and externally, internationalizing its activities is at the core of his daily preoccupations.

AFRICA; THEN, NOW AND ALWAYS

Travelling in general is part of François' DNA. There is though, one destination that during his very first visit, struck such a strong chord that it continues to play an important part in his life today; Africa. François started his professional career living in and working in Africa. He is keen to combine his love for Africa with being able to share the experience and expertise he has gained throughout his professional career. He is a Member of the Investment Committee at Investisseurs & Partenaires (I&P). I&P is an impact Investing Group specializing in financing Small and Medium size companies in Africa. Its goal is to support the development of responsible and profitable African SMEs which create local "added value" and long-term employment, as well as generating positive social, environmental and governance impacts. He is also a Board Member of Ecobank International SA., the only Pan African Commercial Bank with operations in 39 countries.

François admits that his yearly trip to Africa is not nearly enough and in his long-term future plans, he is sure the continent will play a key role.

IMAP | Degroof Petercam

FRANÇOIS WOHRER
Group Head of IB
Degroof Petercam
IMAP France / Belgium

Roularta Media Group

sold its 50% stake in

MEDIALAAN

Advised the Acquirer
March 2018

Roularta Media Group

acquired a 50% stake in

mediafin

Advised the Acquirer
March 2018

Dossche Mills
Since 1875

acquired

Meneba

Advised the Acquirer
March 2018

Selected IMAP Transactions

TECHNOLOGY

nets

Leading provider of digital payment solutions
DENMARK

Acquired 100% of Business Operations

dotpay CARD

Polish payment service providers
POLAND

IMAP
ADVISED ON SALE OF COMPANY

CONSUMER & RETAIL

LUXOTTICA

Worldwide leader in eyewear manufacturing
ITALY

Acquired 100% of Business Operations

Barberini
High Performance Glass Eyewear

Production of optical glass lenses
ITALY

IMAP
ADVISED ON SALE OF COMPANY

HEALTHCARE

Sotera Health

Integrated global health services
UNITED STATES

Acquired Majority Control of Business Operations

GIBRALTAR

Pharma and medical device outsourced testing
UNITED STATES

IMAP
ADVISED ON SALE OF COMPANY

INDUSTRIALS

Deutsche Beteiligungs AG

Private equity (stock listed)
GERMANY

Acquired Majority Control of Business Operations

kraft bauer

Advanced fire extinguishing systems
GERMANY

IMAP
ADVISED ON SALE OF COMPANY

TECHNOLOGY

EXCELITAS TECHNOLOGIES

Portfolio company of global PE firm AEA
UNITED STATES

Acquired 100% of Business Operations

REO
precision optical solutions

Produces high precision thin film coatings and optics
UNITED STATES

IMAP
ADVISED ON SALE OF COMPANY

FOOD & BEVERAGE

FIPAR
GROUPE CDG

Subsidiary of CDG Group
Largest Moroccan institutional investor
MOROCCO

Acquired Investment Interest in Seller's Business

LES DOMAINES

Second largest agricultural group in Morocco
MOROCCO

IMAP
ADVISED ON EQUITY CAPITAL RAISING

BUSINESS SERVICES

Culligan

Water treatment products
UNITED STATES

Acquired 100% of Business Operations

AQUAVITAL

Water dispenser rental for commercial clients
GERMANY

IMAP
ADVISED ON SALE OF COMPANY

MATERIALS & CHEMICALS

DuBois

Specialty chemicals
UNITED STATES

Acquired 100% of Business Operations

IPAC
CHEMICALS LTD

Specialty chemicals
CANADA

IMAP
ADVISED ON SALE OF COMPANY

TECHNOLOGY

loopup

Audio conferencing
UNITED KINGDOM

Acquired 100% of Business Operations

meetingzone

Audio conferencing
UNITED KINGDOM

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ADVISED ON PURCHASE OF COMPANY

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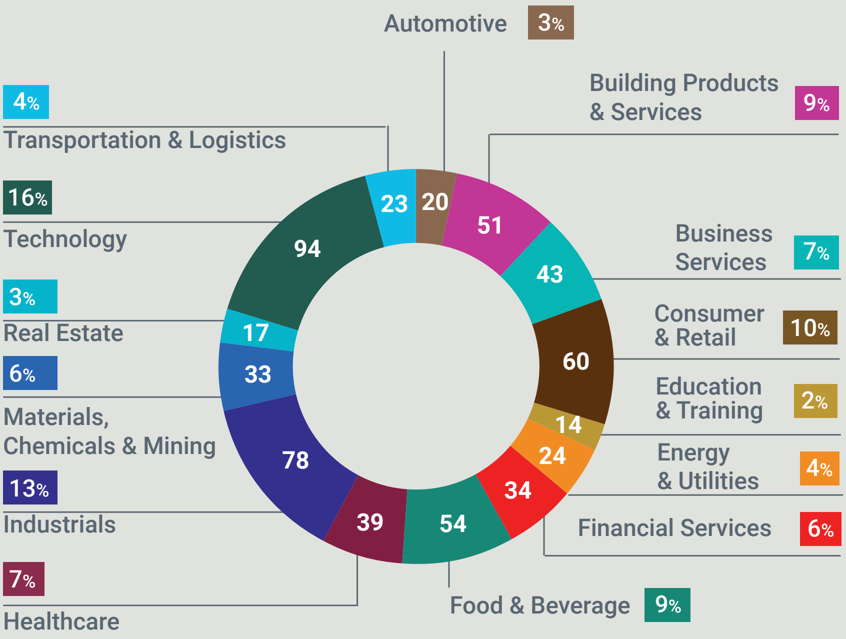
About IMAP

Founded in 1973, IMAP is one of the first and worldwide leading organizations for Mergers & Acquisitions. IMAP is located in 39 countries with more than 350 M&A advisors organized in international sector teams.

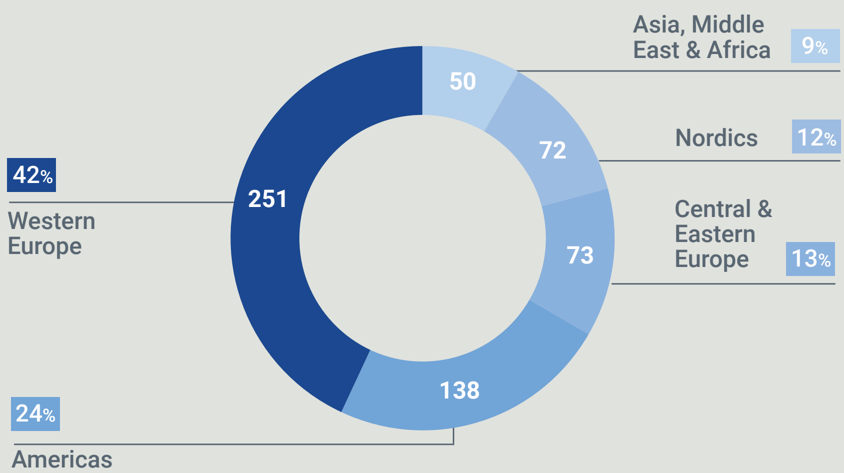
IMAP is specialized in the sale and the acquisition of companies, as well as on strategic corporate finance advisory. Our customers are primarily family-owned, mid-sized companies, but also include large international corporations, as well as family offices and financial investors.

IMAP advisors successfully execute about 200 transactions per annum with a transaction volume of approximately $10 billion.

DEALS BY SECTOR 2015-2017



DEALS BY REGION 2015-2017



IMAP Global Presence

39
COUNTRIES

350+
ADVISORS

Argentina I Belgium I Bosnia & Herzegovina I Brazil I Canada I Chile I China I Colombia I Croatia I Czech Republic I Democratic Republic of Congo I Egypt I Finland I France I Germany I Ghana I Hungary I India I Ireland I Italy I Ivory Coast I Japan I Mauritius I Mexico I Morocco I Netherlands I Norway I Peru I Poland I Russia I Senegal I Serbia I Slovenia I South Africa I Spain I Sweden I Turkey I United Kingdom I United States

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