Heiko Dreier

Aqua Design

COUNTY
Ireland

CONTACT
Heiko Dreier

DATE OF INTERVIEW
13.05.2021

METHOD
Zoom Interview

LENGTH
76 Minutes

INTERVIEWER
Kevin Fitzgibbon

Heiko Dreier is the Managing Director of Aqua Design, an engineering company based in County Kerry, Ireland, founded in 1998 with his codirector Thorsten Schneider. Aqua Design design, cut, fold and polish stainless products for projects and clients of all sizes in the Pharmaceutical, Medical, Chemical, Architectural, Engineering and Food and Agricultural sectors. Aqua Design have been involved in some of Ireland's most iconic and challenging architectural and engineering projects such as the Aviva Stadium, the Millennium Spire (pictured above) and Dublin Terminal 2.

Aqua Design started with three employees providing water cutting services only to a few clients. The company has grown to employ forty-three staff and provide laser cutting, vaulted cutting, polishing, folding, welding and painting. They invested heavily and research and development and improving quality systems to maintain very high-quality standards for their customers.

Aqua Design focus entirely on the domestic market as they feel the high cost of manufacturing in Ireland compared to overseas and the high transport costs negate any competitive edge for exports. The company has grown organically over the years due mostly to expanding the range of services on offer to existing customers domestically, especially in the local area of Kerry.

The company was growing and performing very well until the economic crash of 2007 when they took a big hit and had to let a lot of staff go. It took three to four years to recover to the point of increasing turnover and recruiting staff again. The pandemic in 2020 reduced their revenue again but the government supports helped retain a connection to staff and they've begun rehiring staff already.

Understanding of Growth

Aqua Design's main type of growth is organic growth via the customer base, where the company might get a new customer, but most growth is driven by existing customers wanting the company to do more for them. Heiko describes the growth over the years as very much customer driven, and less export driven – 'It's all domestic'.

Aqua Design grew to about €5m - €5.5m revenue in 2017-18; it stayed at about that level for c. 2 years, or even contracted a little, 'which wasn't too bad, because we were at max capacity. And running at max capacity means you're making irrational decisions, you're creating costs that you shouldn't be creating, because you don't have the time to go through a proper thought process and planning process.'

Heiko believes the company can't look or plan too far ahead as the past has taught them things change too much. Between economic crashes, political instability, the pandemic, Brexit and technology changes such as 3D printing, its very difficult and possibly unrealistic to plan any further ahead than three to five years.

Overall, Heiko maintained that 'to stay competitive, you sort of have to have an up-to-date machine park'. While keeping machines for 5 to 10 years can be ok, it is vital to avoid under-investment in equipment, or the company would lose competitiveness and customers.

New machines are mainly financed in house from cashflow. Down-payments can be 25%-30%, and some of the equipment is quite expensive for a small company like Aqua Design. One recent machine was partially financed by the SEF fund, via €200k grant, and a '€200k non repayable element'. Smaller machines c. €50-€60k are paid solely via cash flow. They also use hire-purchase or leasing agreements, over five years.

Heiko highlighted barriers to competing internationally, including high shipping costs, high manufacturing cost. So growth is based on substituting imports, for the dairy, agriculture and other industries, rather than having to bring parts in from the UK, or from the continent.

Regarding product development strategy for risk diversification, Aqua Design has not done so successfully to date, but would be interested in doing so. However, 'it's much easier said than done, because it's not just R&D into product development.' They tried but failed on one occasion.

In Heiko's vision, he would like the company to become more of strategic partner with some of his major customers, where they bring the company in from a concept design, not just giving drawings to manufacture, because the company has something to bring to the table as well. He says they are already doing this quite a lot.

In terms of future growth, and diversification of revenue streams, the company is negotiating with a company from Australia that is setting up in Ireland. There is a possibility of producing a product under license for them, that might be 'realistic'. He says 'I would love to see our own products from a risk diversification point of view. But I am reluctant to say I want to grow to 80 or 90 staff, I want to drive the revenue to €10m and EBITDA of €1.5m, because maybe I'm wrong, and maybe I'm too pessimistic. But I've just learned in the past that it's not working in our industry.'

Motivation for Growth

Heiko is driven by a sense of responsibility to the stakeholders in the company. Foremost are the staff, who have spouses and children, so there could be 150 people relying on his decision-making. So if he makes the wrong decision, there might be a lot of families that would suffer the consequences. On top of that are customers and suppliers.

Heiko stated that he does not have a vision or drive to grow, just for the sake of growing anymore. They used to have it; but now it's more important to utilize their resources well. He said it's important that the employees work together as a team. So he is cautious of expanding the workforce too quickly, considering the risk of upsetting what he views as a happy team. Heiko states that the company gets 'a lot of commitment from our staff. So I think the very least that they can expect from me is that I'm committed to them the same way they're committed to me.'

Heiko states he is more quality oriented rather than price orientated. He is driven by the focus of delivering high quality and satisfying customer demands – although there are different levels of focus between different customer types. They have customers where they are highly integrated in their value chain and have long-term relationships – these would be the most valuable and important ones; and that these factors will 'automatically drive growth', by 'becoming nearly indispensable' to their customers.

Challenges from Growth

Heiko stated he found it exceptionally difficult to get information about the Irish market; in his opinion existing sources of data are not very comprehensive.

Heiko also highlighted challenges arising from new technologies, e.g. 3D printing, that are potential threats.

Other than Heiko and a financial controller, the other staff members are all engineering focused and this constrains the expertise they have available. The company is looking to upskill some managers this year in accounting, finance, management and marketing.

The company finds it very difficult to find high quality technical staff such as machine operators in Kerry. They can't compete with the bigger companies for staff as they are often customers.

Digitalisation has been pursued by Aqua Design via a new ERP system. But implementing it was very problematic and disruptive. Heiko summarised that: he was sold a complex software system by a trusted supplier; the trainers the supplier provided were not experienced or competent enough; and the ongoing support from the supplier was poor. The result was operational logjams and a degree of chaos. But the company is now getting help in using the system from the Lean Team they are working with, using Enterprise Ireland support.

Regarding succession, Heiko and Thorsten envisage developing a training strategy to upskill existing staff, to make sure this goes well. They would be very slow to introduce external management.

Government support was crucial to the company to cope with the effects of Covid. But raw material prices 'have gone up dramatically', so a higher proportion of revenue is spent on stainless steel, mild steel, high alloys or nickel, etc, compared to beforehand.

Heiko also stated that Brexit has been a major inconvenience and distraction, as regards innovative thinking and normal running of the business.

Key Success Factors

Quality of product, and customer orientation are the two main success factors for Aqua Design.

On customer orientation & relationships, Heiko emphasised it is vital to please the customer. 'If you're customer orientated and have a good customer relationship, it means an awful lot.'

In his company's case, with a pair of German company owners, he also thought he had some advantage since 'everybody perceives a company run by two Germans and German technology as being superior because of the image German technology in general has worldwide. But I don't think that's a big factor.' In the other hand, he also highlighted the initial difficulty of creating a network of contacts in a small market like Ireland 'where everyone knows everyone else.'

He also said most of his staff are with the company 'more than 10 years', and some much more than that. He attributes the quality of family life in Kerry, and staff members' attachment to the area, as being one of the factors supporting their longevity with the company.

> ***To stay competitive, you sort of have to have an up-to-date machine park***

Leadership for Growth

Heiko considers flexibility, strategic thinking, passion and social competence very important for a leader of a SME. Some of the key skills are being able to run a discussion, managing your emotions and managing other people. He's seen some managers trying to lead from a high post and doesn't think this works in a SME. "It's important that people understand that respect and authority is not earned by position. Respect must be earned through actions, knowledge and how you treat others."

He understands that the skillset of a manager of a SME is very different to running a large multinational. A SME needs management to be hands on and familiar with everything that goes on. "So, you expect more sometimes, and you give more sometimes."

> ***Was it Roy Keane that said, 'I'm the Gaffer'? It doesn't work like that in a small company, you must be much more open, you must have an open door, you need to be able to listen to people to get more out of them.***

External Support

Heiko believes the Irish market is very competitive, so its imperative to stay current with technological developments in machinery. As a result, capital investment is very important to Aqua Design; they recently purchased a machine for approximately €750,000 with funding from the Sustaining Enterprise Fund (SEF) with Enterprise Ireland. Smaller purchases are usually paid from cash flow, and they also hire purchase or lease equipment.

Aqua Design engaged in a product development process in 2020. Supported by Enterprise Ireland, they invested over €50,000 in developing a product; but the effort was unsuccessful and according to Heiko, 'it caused a lot of upheaval'. The timing was poor due to Brexit looming, and the pandemic began; but they understand now that the focus was on the product and not the customer. Aqua Design are open to trying again as they know their own product will diversify risk and add value to the company.

> ***If there could be an Innovation Voucher for €50,000 instead of just €5,000 that would transform everything we're doing here. Now instead of messing at the edges we could really get some great projects going.***

Frank and Gráinne Wilson

Ceramicx

COUNTY
Ireland

CONTACT
Gráinne Wilson

DATE OF INTERVIEW
12/05/2021

METHOD
Zoom Interview

LENGTH
77 Minutes

METHOD
Kevin Fitzgibbon

Husband and wife, Frank and Gráinne Wilson started Ceramicx, an industrial engineering company in 1992 from their kitchen. Ceramicx is an unusual Irish engineering company as it trades almost completely internationally, exporting to 67 countries. Frank worked as a manager for a company called Infrared International which moved to Wales and then went into liquidation, Ceramicx began by servicing their existing customers.

The company designs and manufactures ceramic infrared heating elements and complete turnkey infrared heating systems/ovens for industrial and commercial applications. Ceramicx's products and systems are used in a wide range of applications such as packaging, automotive and aerospace amongst others in applications such as thermoforming, preforming, pressure forming, welding, non-contact drying, spot heating and numerous other industrial processes. Ceramicx have been successfully involved in European and international research projects and their products have even made it into space.

Since its initial inception, the company has gone from strength to strength establishing a policy of backward integration (the opposite to outsourcing) with respect to machinery and equipment, and exporting 98% of the goods produced to 80+ countries. Primary markets include Germany, UK, USA, Russia, Turkey, India, and China.

In its initial years Ceramicx regularly achieved annual growth of over 30%, this slowed during the Celtic tiger and forced Ceramicx to consolidate and focus on cutting costs to remain internationally competitive. In the last 10 years Ceramicx has grown an average of 15% per annum. The company has a Research & Development strategy, investing heavily in people and equipment to move Ceramicx towards becoming one-stop providers for solutions, components and equipment builds.

In 2017 Ceramicx reached a new turning point with the completion of a major building expansion project. New office space, larger machine/oven building space and clean room environments are all aiding future growth. In 2020 Ceramicx received the ISO 9001:2015 certification.

Understanding of Growth

One of the main strategies for growth that Ceramicx are engaged in is new product development, Grainne outlined that the company started with one revenue stream and they are now at 4 or 5. They have worked at establishing themselves as industry experts in their field. Ceramicx have expanded into new areas such as pharmaceutical and automotive industries, and this has allowed for continued growth opportunities.

Grainne also highlighted the importance of word of mouth and gaining new business via referrals. They have licenced distributors positioned globally that act as salespeople and advocated for the product, ensuring constant growth in international territories.

Ceramicx has grown based on knowing and respecting its customers, including regarding the culture of each of their countries to make sure they are respectful of their customers' way of doing business.

Ceramicx has become and remained an expert in its field through innovation and specialisation. "It's a very niche global market of industrial heating solutions. Our products work for all different types of industries, such as the plastics industry, and thermoforming, composites, all different types of very difficult circumstances where people are trying to heat their product and trying to cure it, so our products improve their products."

Ceramicx have a global network of distributors, some are directly employed, and some are subcontracted. Due to Covid 19 they have updated their ICT to allow for online communication with these distributors which is working well. The engineering team meet with the distributors on weekly basis to go through new products or changes and discuss any issues they're having.

Ceramicx has an engineering, electronic, mechanical and design departments in house to manage the product from concept to distribution. As a result, very rarely do they need to source or depend on external companies for services or products to deliver for their customers.

Frank outlined that the company's growth trajectory had not been constantly trending upwards. It was stated that growth and the speed of said growth depended on how you wanted to fund the different stages of growth. They made conscious decisions not to sell off parts of the company to further its growth.

Motivations for Growth

The main motivation for pursuing growth according to Frank is to elevate the reputation of SMEs as attractive employers for those entering the workforce. And 'to survive'!

> ***"I love learning, I don't want to have a conversation unless I'm learning something from you. All the collaborations and projects we've done with universities and organistaions has been about learning. Knowledge is so important, and you import know-how through your employees. If your employees are worth anything they have to be an educating value to the organisation"***

Challenges from Growth

There were several occasions where the company has experienced rapid growth that they may not have been strategically prepared for, such as the success of an international project.

As a result of their growth Ceramicx have experienced they have begun to automate the process of producing their core product. Currently 'all work is on industrialising our lines through automation.'

When outlining challenges Ceramicx has experienced from growth, it was outlined that larger multinationals can prevent SME's from obtaining top talent when it comes to the hiring process. Frank believes that those leaving the university system in Ireland do not appreciate that the growth opportunities over time are greater in a SME compared to in a large multinational organisation. Employment with FDI companies is seen as more favourable when seeking stability. According to Frank this not only directly impacts SME's but also the individual in terms of their potential and creativity. In this way, he believes that wealth generation capacities in Ireland had been inhibited by the university system and FDI companies.

Frank highlighted difficulty the company experienced with the pricing of the gasses that were necessary in the production of heaters, on one of their own production lines. This led to Frank contacting an associate in Taiwan and selling the entire production line to that company, where such difficulties were not an issue, and using that company as a subcontractor, in order to keep the supply of heaters going and reduce Ceramicx's overall costs.

One of the main needs for SME's is access to talent. This has been highlighted on numerous occasions in the duration of the interview by both Frank and Grainne. They have difficulty attracting the right people when many are bypassing SME's to seek employment at larger multinationals

Key Success Factors

Grainne highlighted growing the firm's product offerings through constant innovation has been integral to the ongoing success of Ceramicx.

Frank highlighted that the firm's ability to connect with its customers and understand them not only on a need's basis but on a cultural basis has allowed them to grow by enhanced reputation and good word of mouth.

Ceramicx has a policy of interdisciplinary teamwork where experts from different departments share skills, knowledge and projects to cross pollinate.

Frank is very passionate about training and educating his staff, which goes on continuously as what the business needs from his employees now can be very different later on, so they need to keep upskilling.

Business Leader Importance

In their opinion, business leaders must demonstrate a strong ability to identify opportunities internationally, and develop and cultivate relationships with customers.

Frank and Grainne also maintain they have an innate ability to identify opportunities within internal projects and how these projects can benefit Ceramicx in terms or growth and brand recognition.

Frank is 'always looking for new ideas, new information, new methods of developing products and new connections for business'. The company now produce ceramic elements , quartz elements, tungsten/halogen elements and components.

They also work closely with customers who bring their product to Ceramicx's laboratory, to test for the best heating solution for their product. Applying the new heating solution from Ceramicx can reduce the customers' energy consumption by up to 40%.

COOPERATION FOR GROWTH

Collaboration

Ceramicx has engaged with many universities down through the years including Cambridge University, Trinity College Dublin and the University of Limerick. Frank has had some positive and some negative interactions on projects and product development and he would love to see more entrepreneurs working for universities. He believes the academic approach of people working in universities makes it difficult for industry to engage effectively. There are aspects of business you cannot read in a textbook; you need to experience them in life.

Frank worked to identify and access reports on other countries, and traded information with other companies internationally for their customers. He took the initiative to source the information himself through building relationships and collaborating.

Ceramicx has been involved in European projects with European and international organisations which raises the profile of the company and have enabled he company to broaden and deepen its knowledge in specific areas.

“Frank is a technologist, he was a huge interest in all parts of technology, he never stops thinking, he'll wake up every morning with a new idea. He’ll get to the bottom of it, he’ll get the product made, he will get it out to customers, and this is how we grew, we have five or six revenue streams now, we started with one. Now we're experts in the field.”

Redmond McDonnell

Design Pro Automation

COUNTY
Ireland

CONTACT
Redmond McDonnell

DATE OF INTERVIEW
19.05.2021

METHOD
Zoom Interview

LENGTH
60 Minutes

INTERVIEWER
Kevin Fitzgibbon

Redmond McDonnell is CEO of Design Pro Automation and an accountant by profession. He spent 12 years in Ernst & Young, mainly working in both audit and corporate finance roles. He also spent time as part of the audit and compliance role and working with the Entrepreneur of the Year program. His clients were a mix of large multinationals both in the tech and manufacturing space, as well as some indigenous SMEs that may have come into EY through the Entrepreneur of the Year program, with a diverse background of customers.

He joined Design Pro in 2017, initially as a financial controller. In 2020 a reorganization was carried out, and the previous CEO and founder Paul Collins, moved to the COO role and Redmond moved into the CEO role. That was to acknowledge Paul's wishes to be more hands on, and move back into the engineering space, which is his real love for the business. Redmond's role initially was to be second in command for Paul, and then to be able to step into the CEO role. It was very much a planned transition from day one when he joined Design Pro.

Design Pro is a systems integrator, bespoke machine builder; they are automators & robotic programmers, mainly working in the MedTech space in Ireland.

Founded in 2004, Design Pro grew slowly to 7 employees and almost €1m turnover in 2012. In 2013 the company won the Limerick Local Enterprise Award and the All-Ireland Enterprise Award, which gave recognition that sparked a growth spurt, reaching 15 employees and €1.5m turnover by 2015. A major growth period took place in 2015-2017, including moving into a large new premises.

By 2021, employees were at 50, and turnover was at €6m, about 80% from a small number (6 to 7) high-value projects, working in close collaboration with their customers; the remaining 20% is from 100-150 small projects. This took place as the company made strategic decisions to focus on the MedTech sector, and to reduce their key customer concentration risk.

NOTE

HEI = Higher education institution | SME = Small and medium-sized enterprise

Understanding of Growth

The growth of Design Pro from 2004 - 2012 was initially very organic, taking on small jobs. They then acquired a number of multinational customers including Merck Millipore in Cork, Becton Dickinson, Stryker and Boston Scientific and these helped provide the impetus for increased growth.

The company has a clear strategy to grow to 10m turnover and 75 people by 2023. This is driven by the sectoral specialisation the company has adopted. Redmond quoted the advantages of working in the MedTech sector – the primacy of delivering high quality products, the scale of the sector in Ireland, the non-cyclical nature of the sector, and the collaborative mindset of customers – all of which play to Design Pro's strengths in precision automation.

Redmond recognised the need to improve the company's marketing. Perhaps counter-intuitively, marketing to their existing customers was recognised as necessary, 'because these companies are so big it might only be the actual team or division we are working with who know what we do.' So one part of the strategy to grow organically was a marketing campaign to create awareness among other business units within existing large customers, and get internal cross-referrals from their existing contacts.

Regarding international growth, Redmond outlined how this has increased to c. 20% of sales, and the company has delivered machines to China, Mexico, South Africa, the US. the UK and Germany. However, 80% to 90% of initial inquiries for such projects actually originate from a manufacturing base in Ireland, in a form of organic growth with those companies. So far, Design Pro has not developed a deliberate international sales strategy. In fact, in Redmond's opinion the company is still in that organic growth phase where they need to develop their existing market in Ireland and grow organically before they can become truly a global company.

Regarding international offices, Redmond maintains it is probably a few more years away as they have so much more to explore with their existing customers. Their ideal approach would be to become so big and ingrained with a few customers who may have similar locations abroad, to have two or three large customers and get referrals and work for them, to justify putting a small base near their location and trying to expand from there - maybe a smaller manufacturing facility with a salesman on the ground looking outside of those customers. But it would take a large customer and a large guarantee of revenue to do that. He sees so much growing to do at the moment from the Irish base, that it's a five-year plan down the line. However, in a new departure, to expedite their growth Redmond is now also seeking either a partner company or possibly a small acquisition to help grow and supplement the team.

The company is currently highly dependant on good relationships with customers for repeat business, rather than on selling the same product repeatedly. Most of the work is one-off. However, in another strategic departure, the company is now exploring how to develop systems that can be used for multiple different customers - standard repeatable platforms with less R&D cost on every job. To do that, they have separated their activity in 2 streams / divisions: Design Pro Automation, the bespoke side; and Design Pro Robotics, the standardized robotic platforms - robotic welding, robotic tending. The automation side is for their med-device focus. The robotic side is for the rest, but it's in that hub where they are developing their standard platforms such as standard machine welding platforms, robotic welding platforms, standard, robotic tensioning platforms.

Growth in the past few years has been with more investment but without private funding or external debt, growing organically, rolling profits on jobs into the next job and getting bigger and increasing capacity.

Design Pro is one company that has seen increased interest due to the Covid pandemic; their automated processes are not as dependant on operators, and help customers reduce the risk of sickness-induced downtime.

Challenges from Growth

Key customer concentration risk

The biggest risk arising from the rapid growth in 2015-2017 was key customer concentration risk, which was identified in 2017, when 50% of the company's turnover could have been on one key customer, so that was a major risk. They made a strategic decision to improve their marketing to prospective customers – which helped the company cope when a key customer di indeed reduce its orders. The company is now in a far more positive place arising from that decision.

Employee retention

Employee retention is always a challenge because the company has been built on many key skill-sets and knowledge in the company. It is of the utmost importance to ensure they have employees engaged in the company, that they understand where it's going and where the company focus is, to retain their talent. Because they need to grow their teams by placing people as 'buddies' of the existing employees, so they can learn from them in a partner system. That's key because even though they build machines, and they have a product, those machines are built by the knowledge of the individuals, it's 'a bunch of engineers who are coming up with concepts and developing unique systems.'

Capital investment: equipment, floorspace & digitisation

Redmond confirmed that this industry sector is highly capital intensive, and there's a need to constantly invest in new machines and upgrading, such as new CNC machines. In addition, there's a need for more floorspace. Redmond also states there is a need to invest significantly and continually in digitization.

In one example of a capital-intensive project, the company was planning to build a VR experience room to showcase what they can do with their VR software, which can be used as a design sign-off tool. The company is constantly adding new floor space, e.g. putting in a mezzanine floor.

Other capital-intensive items include buying demo robots, buying demo pieces of equipment, upgrading tooling facilities, or upgrading the building. Redmond stated they spend six-figure sums every year in terms of capex projects to stay relevant and at the forefront of what they do. Such investments 'always need to be planned well in advance and understood, and we need to be making decent profitability in our jobs to be able to support that.'

Access to capital

Access to capital is starting to be a challenge to growth because up until now it's been quite organic growth and the company doesn't have debt. But to expedite their growth, Redmond is seeking either or partner company or possibly a small acquisition to help grow and supplement the team; as well as increase the turnover based on whatever that company may do. Access to capital for those type of acquisitions is important now, but only in more recent years.

> ***Up until 2017 Design Pro grew without much marketing, through word of mouth and reputation. When I came to the company to get to the next phase I knew we needed to up our game in marketing.***

Key Success Factors

Customer retention is of the utmost importance. 'If we continue to deliver high-quality machines to our customers, we will continue to grow with their engineering teams, because these customer companies so large and vast that the internal referral network is a huge way for us to continue to grow. So we need to make sure that we understand the company and keep our customers happy.'

Marketing in the right place. Focused marketing of the company's skill sets, across different channels, LinkedIn, Trade Shows etc.

Developing repeatable platforms: systems that can be used for multiple different customers – which Redmond names as 'the ultimate goal for any machine-building company. We will only get so far as a bespoke machine builder. The golden goose for a company like ours is to develop two or three platforms, more of a production base scenario where we can just build and repeat those with the last 5% being bespoke projects. Whether it's a machine tending system or some kind of platform, that is where we'll go from a €10-15 million turnover up to a €30 or €40-50 million stage. We need to develop standard repeatable platforms with less R&D cost on every job.

> ***We will only get so far as a bespoke machine builder. The golden goose for a company like ours is to develop two or three platforms, more of a production base scenario, where we can just build and repeat those...***

Business leader importance

Adaptability and flexibility to adapt to a situational change in a fast-paced environment.

Drive to drive the team whether you're an engineer, accountant or doctor you need to drive to lead any company through growth phases.

Accountability, holding people accountable to present targets.

Passion is important, a passion for the company and what it stands for because as a leader, you're able to impart that passion onto other staff in Design Pro, and if everyone's working towards a common goal, that's an intangible unquantifiable thing, to get the extra per cent out of them in terms of their commitment to the company.

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Networking & Collaboration

The whole ethos in Design Pro is to collaborate and work well with others. They 'understand its importance when working with technology', since there are sectoral and platform experts across a wide and varied range of technologies, and the only way to get the best product is to collaborate with them accordingly.

The company has had collaborations with some universities. They did a robotic and endoscopy project with one of the universities. They collaborate a lot with suppliers regarding the technologies in their machines, in understanding the technical requirements delivered. The right product and service for the customer and end-user are of the utmost importance.

The company does collaborative marketing with some of suppliers if they have a piece of technology and Design Pro have designed a frame to integrate it with a robot doing something particular.

Design Pro is a member of the LINC engineering cluster, a Limerick-North Cork engineering companies' collaboration. Redmond reports getting 'good traction' with that, from existing or prospective suppliers of Design Pro, as well as some of their smaller customers. He foresees future benefits through collaborative tenders, putting three or four different skill sets together to tender for some of the larger government-type tenders. Design Pro has recently tendered for grant funding as a collaboration cluster. The company has also engaged with the Irish Manufacturing Institute in Mullingar.

> ***They have joint projects and cosponsor village learning programs, so they go much further to accompany the initiators. They participate in the construction of materials and curricula, involves its collaborators to create interfaces, but it takes real animation***

Fred & Judith Graepel

SME's Owner

Graepel Perforators & Weavers

COUNTY
Ireland

CONTACT
Fred Graepel

DATE OF INTERVIEW
14.05.2021

METHOD
Zoom Interview

LENGTH
81 Minutes

INTERVIEWER
Kevin Fitzgibbon

Graepels manufacture engineered metal products including perforated metal, woven wire and laser cutting. Established in Kinsale, County Cork, Ireland in 1959, when Harald Graepel moved here and founded Graepel Perforators & Weavers Ltd. In 1971 Harald took over a competitor in Warrington, England and established Graepel Perforators Ltd (UK) and by 1980 Harald had expanded into Glasgow, Scotland. The sectors addressed were mainly agricultural, fisheries, shipyards, quarries, etc.

Harold died in 1984, and his wife Annette took over running the business until her death in 2007. Annette came from a financial background and took over this specialist engineering manufacturing company without any formal technical knowledge. Annette went back to college to help her run the business which we she did profitably through recessions but with little to no investment in equipment.

Fred (Harold's son) has been working in the company from a young age – 'driving a forklift around the factory at eight years old'. Fred spent time working in Italy, Germany, the UK, and Dublin, before moving back to Cork in 2005.

He has been working in the business for over 40 years and became Managing Director in 2007, with his wife Judith who is also a Director.
Although financially solid in 2007, Fred could see they were losing business to companies with newer and faster machinery. They were unable to keep up to date with customer desires and advancements in the metal business. They invested significantly in repairing, upgrading and buying new machinery which allowed them to offer more services to existing customers and they started to grow again.

They now manufacture standard and bespoke metal products including perforated metal, quarrying and recycling products, metal flooring products, and woven wire products for the architecture, construction and industrial, quarrying and mining, waste management and recycling, safety and security, public art and sculpture, agricultural, maritime and fisheries and landscape and garden design sectors. They offer cutting, folding, bending, welding, bonding and rolling but are aiming to be able to finish products completely for customers soon.

Journey of Growth

Graepel's has grown to employee 54 people with a turnover of €5 million in Ireland and £2 million in the UK. Growth has happened organically through word of mouth, customer recommendations, marketing their products and services, and expanding their product range. As contractors they don't actively pursue customers so as not to upset existing customers and competitors which they work well with now.

Graepel's have worked hard to diversify their customer base, one new sector they've grown into is offering metal features for the architectural sector. As a result of Fred's international experience, he saw the expanding use of metal in this sector and pursued this market in Ireland. They've also started offering various new products including perforated pictures in metal.

The economic recession of 2008 hit the architectural sector badly, their turnover dropped by 65% and most of their customers went out of business. They had to let employees go and this was very difficult for everyone. Fred was working 18-hour days with a young family trying to figure out how to survive.

Fred and Judith decided to get to know the international competitors and visited large, medium and small companies around Europe. They joined EuroPerf (www.europerf.org/), Europe's largest perforation network, the Industrial Perforators Association (www.iso.org/) and the Plato Group (www.platocork.ie/). They also started collaborating with MTU (then CIT) on projects and work placements. This networking and travel provided great insights into where the industry was growing and how others were managing the changes. They also learned about Lean Practice, management systems and communication.

They realized the importance of having the whole staff team aware and engaged with their vision for growth. They started morning meetings to share information amongst every department, they'd discuss targets, inquiries, orders, payments and any issues or concerns so each department knew about the others, and everyone feels invested in the success of the company. They also focused on hiring qualified personnel including an architectural technician, an architect and engineers.

They've made significant capital investment over the past fifteen years to recover from lack of investment previously and stay current with innovation in the industry.

Challenges to Growth

Attracting and retaining qualified staff is difficult for Graepel's. They're based in Kinsale, a tourist town in County Cork which isn't an attractive location to work, especially for young people. There's big competition with the large multinational corporations (MNC) for skilled labour and often people who start with Graepel's gain experience and move onto an MNC.

Transport is an issue, in terms of high costs and the difficulty getting big rigs down the poor narrow roads to Kinsale. Competing with international exports, Graepel's are challenged with expensive import and export costs for their products. They're currently exporting to Spain, France, Belgium, Holland, Denmark, Norway and Sweden but these countries are connected and don't have to incur the expense of shipping metal on and off an island.

The cost of steel has risen again recently which has increased their prices for jobs, some raw materials have increased 100% this year and as a result some customers have had to delay or cancel jobs.

The capital-intensive nature of the business and the legacy of poor investment meant Graepel's accrued bank debt, but this caused sleepless nights as the deeds to their property were sold on by the bank. They're now leasing equipment to reduce their debt burden and stress levels which is working very well for them.

Brexit has reduced their trade and transport with the UK, its also causing delays in transport which is difficult to ensure they deliver their products on time to customers.

Research and networking:

Graepel's was hit hard by the 2008 economic recession with turnover falling by 65%, half of their customers went out of business, they had to let go of a lot of employees, they lost all their savings and Fred was working huge hours while earning less than some of the people in the factory. They had no idea what to do.

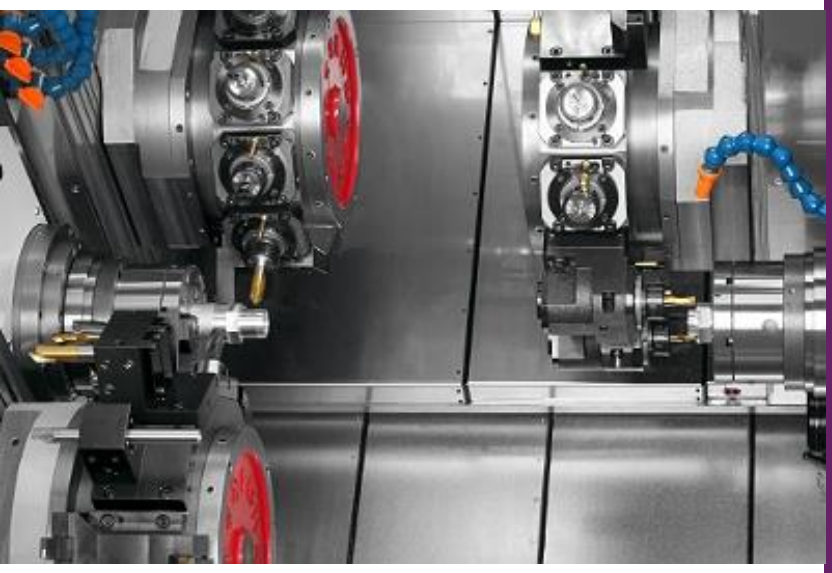
Fred remembers his father telling him to always know the competition and work on developing your strengths, so they decided to travel to visit factories in other countries and see what they were doing. They visited all the big players, medium sized companies and smaller companies to see what they were focusing on and how they were dealing with changes.

They got involved in EuroPerf, the European Perforation Association, which Fred became president of for several years. They joined the Industrial Perforators Association (IPA) and later the Plato Group in Cork. This gave them great insights into the industry, how other companies functioned, what direction they were going in, and how they managed to grow in the marketplace. This was a massive education and has helped direct growth in the company.

> ***We travelled around Europe, joined EuroPerf, the IPA and the Plato Group which was a massive education. We dealt with companies from Australia, South Africa, India, Malaysia, Japan and the US which really gave us a huge insight into where the industry was going. This information has been driving our company forward and helping us grow.***

Rolf Fuhrmann

Mann Engineering



COUNTY
Ireland

CONTACT
Rolf Fuhrmann

DATE OF INTERVIEW
18.05.2021

METHOD
Zoom Interview

LENGTH
68 Minutes

INTERVIEWER
Kevin Fitzgibbon

Rolf Fuhrmann is the Managing Director of Mann Engineering, based in Wexford, Ireland. It is a family business, founded by Rolf's father Siegfried in 1976. Originally from Germany, Siegfried began by providing agricultural products, light metal fabrication and metalwork repairs services.

Rolf studied manufacturing engineering, as well as qualifying as a toolmaker. In 1993 Rolf purchased five production machines and a customer contact from a company that had gone into bankruptcy, and started the progression of Mann Engineering into precision-machining. That initial customer is still one of Mann Engineering's top five customers. From these beginnings, Mann Engineering is now a sub-contract CNC precision-machining facility producing complex high-quality components for a wide range of industry sectors, including Aerospace.

Understanding of Growth

Rolf outlined that their customer base grew in the machine shop and in the fabrication, making hand trucks, machine ladders and, stock trolleys through word of mouth in an organic fashion.

Mann Engineering's growth has been organic in nature, by expanding their customer base incrementally.

Rolf understands growth in terms of revenue and people numbers (either customers or employees); the company has a turnover of c. €2.3m. The aim is to build to €3m in the near term.

A strategy that Rolf highlighted pertaining to growth was the consistent purchasing of new equipment and machinery. This was done with the assistance of Enterprise Ireland and allowed them to acquire new CNC machinery about every nine months.

Mann grew and employed up to 20 people in the mid 90's-2000's, without any salespeople or any type of formal business planning. The customer base expanded by word-of-mouth references, and the only reason the machines stopped was for lack of materials, and not for lack of jobs available.

Taking on their first salesperson in 2011/2012 meant they were able to strategically generate more business. The machine shop generates 85% of turnover, fabricating c. 10% and now it is just the remaining 5% that comes from the company's historic early business of servicing retail customers. This reflects the strategy of product diversification they have followed.

Mann Engineering expanded the products they were manufacturing and selling to include higher value components (specialised equipment and parts rather than items that competitors could readily manufacture). They also began exporting to the UK.

When asked what type of difference can be observed in the business having put these growth strategies in place and introducing all this new machinery, Rolf outlined that both quality and productivity has increased dramatically. Productivity from the machinery side in that the newer machines are much more capable of taking on large amounts of work at faster paces, and from the operators themselves being able to work with functional machines that are not in constant need of repair.

The quality aspect has come from the higher calibre machinery that has been introduced, and improved quality would apply in the level of service being offered to customers.

Motivation for Growth

One of the main motivations for growth in a number of diverse sectors was the loss of some high-profile retail contracts to competitors. Rolf highlighted that this meant the most profitable part of their business became the least. This led to diversification of product offerings and more substantial growth and sustainability.

Challenges from Growth

One of the most significant challenges was access to adequate skilled workers or apprentices within Ireland, and training technical personnel such as operators.

In Rolf's opinion, companies in his industry need to train technical personnel in-house. Mann has always trained in an ad-hoc manner and never in a structured way. But they are now setting about establishing more of structured approach to worker training. So the company took on three apprentices, at third year, second year and fourth year.

One issue is that the skillset the company has is still young, the workers are 20's/30's; in response to this and with the need of someone with experience in mind, the company has been recruiting more senior experienced personnel as well.

One challenge that Rolf associated with the company's growth was the taking on of too heavy a workload for the staff employed at the time. The lesson learned was the importance of scaling and adhering to what is manageable in terms of staff and equipment. While they sometimes subcontract due to large workloads, an issue arising from that was a loss of some skills from the company.

Rolf identified one training need they had when acquiring new machinery was having workers who could set them. In his opinion at the time the training wasn't good enough and highlighted that skilled workers are at a shortage in Ireland. This is a problem internationally, and he described a growing trend to source such skills from countries like India and South Africa.

When asked about digitisation and industry 4.0 Rolf highlighted that automation and robotics is something that is on their radar to develop in future, and the scope is there to explore it. He clarified that 24/7 automation is not something he would want, but in the short term about 2/3 hours unmanned and automated. Delving deeper into to the digital space Rolf outlined that they are always looking at IT and the ERP/MRP systems, going paperless and making everything more efficient. Currently the company is focusing their efforts on the inefficiencies on the work floor and establishing better changeover.

Also mentioned was that the supply of raw materials has slowed recently, resulting in cost increases.

Key Success Factors

One key factor of success that Rolf was quick to highlight as a saviour for the company was the investment in the high-quality machinery from CNC that allowed them to do work and manufacturing faster and subsequently cheaper.

Another key success factor has been in the diversification of Mann's product offering and the sectors in which they produce components for.

External Support & Collaboration

Rolf highlighted support from Enterprise Ireland that allowed them to purchase new equipment, and he later went on to expand that point stating they were in receipt of a Productivity Growth Grant. This allowed them to purchase more machinery.

Also, through Enterprise Ireland and their accelerator programme they were able to take on a sales person.

As outlined by Rolf they have undertaken some amount of training in the outlined areas, specifically the IMI Transform Programme and the Enterprise Ireland International Sales programme. Also, as part of the Sustainable Enterprise Fund they are currently availing of they have to take part in a marketing review programme, which is two months in duration

Rolf outlined attending PTMA (Precision Turned-parts Manufacturing Association) meetings to solve problems, generate new business and create networks and contacts. As it is a worldwide organisation it can be a good way to create international links.

Also mentioned was the establishment of Emerald Aero and being part of a network that has backing and funding from Enterprise Ireland. Rolf outlined that they have salespeople in the US and UK, and this has become integral to their growth in terms of gaining work from abroad. Rolf also highlighted that there has been a level of cross trading within the group. Mann Engineering has invoiced out €150,000 to the group and in the last year a further €100,000 would have been subcontracted out. Rolf stated that his company would have done approx. €250,000 of business within the group.

Mann has also taken on graduates and apprentices for both the practical and hands-on aspects of work and the more technical engineering side of the workload. They also would have collaborated with Carlow IT on an innovation voucher. Another interaction involving both a cluster and IT is the creation of a precision engineering course in LIT with input from the Emerald Aero group.

Seán Hayes

MTD Precision

COUNTY
Ireland

CONTACT
Seán Hayes

DATE OF INTERVIEW
20.05.2021

METHOD
Zoom Interview

LENGTH
80 Minutes

INTERVIEWER
Kevin Fitzgibbon

MTD Precision are a precision engineering design and manufacturing company based in Little Island, Cork. They company serves primarily the life sciences sector, but also has customers in the biopharma sector, the automotive and aerospace sectors, and general engineering. Clients are mainly in the Munster region of Ireland, but from occasionally around the rest of the country.

The company mainly supports the domestic manufacturing sector, with some exports as well, mainly to the USA, for FDI companies that have an Irish operation.

Seán described the company as a solutions provider for larger companies, they take on smaller jobs that can be a lot of hassle for the larger companies. MTD Precision is an indigenous Irish company in the SME sector, and currently employ 12 to 15 people; however, that number fluctuates seasonally.

Seán began his career at a technical school in Charleville, County Cork and built his skills in woodwork and metal working. From there he took up an apprenticeship as a tool maker in the Shannon region. Having spent five years in Shannon, Seán moved to Sligo where he undertook an apprenticeship, returning to Shannon as a qualified toolmaker.

Having expressed an interest in the design process of the tool making, Seán returned to education as a mature student at the Regional Technical College in Sligo. After his degree Seán spent time in Limerick working with Stryker, where he was one of the first people in Ireland to be trained in 3D CAD as it was first introduced.

Seán highlighted that coming from a small community with many entrepreneurs is what propelled him to start his own business. In 1996 he started his own precision engineering business.

NOTE

HEI = Higher education institution | SME = Small and medium-sized enterprise

Understanding of Growth

MTD Precision has grown organically over the years, starting with small clients and jobs, and growing over the next 3 to 4 years to the stage where the company required more employees and more workshop space. Seán now considers that he started rather naively, thinking it would be simple to bring business in. However, he learned that a certain level of trust was needed between the two parties.

Seán was aware of Stryker's presence in Ireland at the time when MTD Precision was expanding, and he also became aware that DePuy were about to set up in Ireland. He made connections with these two companies and was able to get on the vendor list for both, which was huge in terms of his business's growth. It was at this time the move to Little Island from Charleville came about as it was more practical to be closer to these large companies.

Another strategy that Seán highlighted was spreading the risk. He stated that he now has three separate income streams from three businesses, one of which is MTD Precision. One of these was started during the covid pandemic and allowed Seán to keep revenue coming in, and maintain his core team.

The company began with turnover of c. €300k, which has grown to its current level of €1.5m to €1.7m.

> ***I was always connected with the IDA and Enterprise Ireland, anything that enabled me to build my network and to educate myself about the emerging trends in the business and being aware of what was happening in the Irish sector, in particular***

Motivation for Growth

One of the main motivations for growing came from the need to compete on a larger scale with other members of the supply chain. The need to produce higher quantities at lower prices was difficult but essential to remain a key supplier to larger multinationals.

Another key motivation is in the assisting of apprentices in the future. According to Seán that in a political way the larger and louder companies get ahead when it comes to training need and capabilities; and to have his voice heard at the table continued growth is needed.

Challenges from Growth

One of the main challenges highlighted by Seán was the ability to compete on quantity and price with competitors based in Asia. With growth has come increased costs from employees, machinery, maintenance and leases, and it is difficult to remain competitive.

A huge challenge from growth is continued access to capital.

When asked about needs that a SME may have in the engineering sector Seán stated immediately the main need is in key skills. Seán went on to elaborate further that this is not just in the tread of hiring employees with specific skillsets; while this is a valuable asset, it can also be around the training and upskilling of current staff. Seán stated that in his opinion when investing in people and in-house training and education you get back what you put in tenfold.

Another need the smaller companies may have is in access to supports that will enable them to retain skilled members of staff. Seán highlighted that people will be in the sector long enough to witness high level multinational companies offering more money, perceived better conditions and better benefits. The ability to compete on these levels is key for SME's not losing staff they have spent time and significant resources training and developing

One key area highlighted by Seán in terms of training is in the revamp of apprenticeships. This is already being done in conjunction with many institutions, however it is poorly funded by the government and as such there has been a very slow uptake. He also sees a need to change the narrative around apprenticeships. They are no longer a safety net if you fail to get into university. The newer model of apprenticeship allows the leaver to obtain a degree, along with practical training.

When asked about upskilling personnel Seán stated that is necessary for the success of a business. In the more technical side Seán has highlighted that it is important to empower his employees to take control of their own learning, and participation with the likes of MTU and Skillsnet Ireland has been pivotal in that.

When asked about the more business side of things (in particular relating to business innovation, internationalisation, access to capital) Seán stated that they tend to almost act as an involuntary talent pool for the larger companies. Seán stated that they have a commercial manager and a planning and logistics expert. Understanding that this isn't enough Seán clarified that realistically what they need is a three- or four-person management team.

Key Success Factors

One of the key success factors highlighted by Seán was the design capabilities they possess.

Another interesting success factor was in understanding own value proposition. Understanding how to cost a particular job, what their hourly rate should be was key. Another key was having the correct systems in house to determine if they were making a profit on a job or not. It was because of this Seán stated that they invested heavily in IT and any systems that aided in the gathering of data.

Business leader importance

In Seán's opinion, as the owner-manager he is the key person in the business. The management structure of MTD Precision is quite flat, and he is often the key driver of activities within the business. Much of the decision-making processes come from Seán himself and they do not have a board of directors.

Supports & Collaboration

When asked about specific training needs Seán stated that all of the supports, they have received from LEO's, Enterprise Ireland or any other sources have been essential to the continued success of the business.

Enterprise Ireland also provided valuable supports in the form of consultancy grants, and they also provided a key person management grant that enabled Seán to employ a commercial manager. This was for six months with a fully provided salary.

Seán participated on a business development programme with the IMI on a two-year term. One key element that he found from the course was in the importance of financial analysis and financial KPI's and in constantly assessing current profit and loss levels. This has been key as he is not from a financial background.

Seán highlighted favourable assistance that he received from the IDA when making the move to Cork City from Charleville. They were able to find him a site in Little Island to purchase that was suitable for his needs and would have the space to expand on if needed in the future.

One key support needed from the government is in funding apprenticeships, particularly the newer model of engineering apprenticeships that sees graduates leaving with practical skills and experience, as well as a level 8 degree.

MDT Precision is a member of the Irish Manufacturing Research centre. They have also participated in European projects with the University of Limerick, arising from connections made by attending European networking events. It was seen as a success, and it demonstrated what they as a smaller business were capable of.

MDT staff members went on to work in other in partnerships with UL thereafter and moved on to research positions. This is seen as a business opportunity, and it brought the company into R&D and the innovation side of industry.

Sean maintained that, while apprenticeships are valuable and worthwhile, the current content is extremely outdated. They have not been kept up to date In line with newer automated and computerised machinery.

Michael Wall

Somex Automation Ltd.

COUNTY
Ireland

CONTACT
Michael Wall

DATE OF INTERVIEW
4/5/2021

METHOD
Zoom Interview

LENGTH
96 minutes

INTERVIEWER
Kevin Fitzgibbon

Somex Automation was founded by Michael Wall (Managing Director) in 2003 and since then has grown its team with members who have a vast experience in equipment design and process improvement.

Supported by a strong in-house team of Mechanical and Control Engineers, Somex is one of the Leading Suppliers of Bespoke Automation equipment to the Medical Devices, Pharmaceutical, Food and Beverage Sectors in Ireland & Europe.

Based in South Link Business Park near Cork City on the south coast of Ireland, Somex provides highly innovative, cost-effective solutions in a timeframe that meets the demands of the dynamic environments within which their customers operate.

NOTE

HEI = Higher education institution | SME = Small and medium-sized enterprise

Understanding of Growth

In retrospect Michael Wall, (Managing Director) has doubts about whether Somex Automation would be a good example of well-planned growth. His view would be that often business decisions are made in response to the challenges and opportunities of the moment and not always with a long-term perspective.

Michael's own experience helped him to see an opportunity in automated equipment for industry in the late 1990s. Having formed a company and built a client base one significant step some years ago, in terms of growth and development was a decision to separate the business into two distinct entities. Recognising that the business had developed in two different and complementary directions led to the establishment of Somex Automation and Somex Innovation.

While this division may have been difficult, by identifying the different directions and making the decision to pursue different aspects, it enabled the growth of the separate elements as it allowed clarification of goals.

Somex Automation continues to grow and provide design services and special purpose projects for many companies in the medical devices and life sciences areas.

Really for Michael growth is about development and increasing customer satisfaction as well as margins; increasing turnover, headcount and overall business volume, and supporting that growth often means investing in new equipment, investing in people.

While the work involves development of specialist solutions and project type approaches Michael feels that there are opportunities to offer these solutions to a wider customer base and therefore to extract more value from the work.

Because of the growing importance of automation, robotics, control systems and the internet of things there is a widespread need for the work that Somex Automation offers to the higher value manufacturing sector and that offers a certain security into the future.

Motivations for Growth

Because of the nature of the project work that Somex undertake they have close relationships with their client companies. Developing specialist solutions necessitates a lot of interactions and a closeness to the customer product and product lifecycle. The benefits that are delivered to the customer include improved quality of product, improved processes, and reduced costs.

Building on these solutions and developing products that are more broadly transferrable is a growth opportunity that Michael sees for Somex Automation.

Having the right team is a key to growth and development and that includes having a mixture of experienced and recent graduates.

Looking forward the company is also keenly aware of the need to develop its people to take the company to the next level. Progression opportunities and development of future leaders is also important to ensure the right climate for growth.

The company aspires to grow by approximately 10 to 20% annually over the next four years or so and business decisions are being made on that basis.

Challenges for Growth

For Somex from the beginning it was important to focus on strengths and priorities, as well as setting the limits. For example, even though the project work required parts to be fabricated from time-to-time Michael was clear that the company was not going to develop machine workshops or CNC capability.

Investment in that kind of capability would have become a real distraction as, from a business perspective, it would have meant trying to ensure that the resource was being effectively utilised.

While the customer network is very important there is also an important network of suppliers and service companies on which Somex relies. Ensuring that that supply network of, for the most part local and national organisations, is maintained and provides the flexibility and growth opportunity is also a key priority.

There are some real challenges for small companies like Somex in relation to compliance and the various legislative aspects – it can be a significant overhead to maintain compliance and – in a competitive skills market – to make it attractive for people to work. Small companies are inevitably competing with big multinationals to attract and maintain talent and there is often an inequality in terms of the efforts that can be expended.

Michael views this challenge in a holistic way and sees the quality of life and the infrastructure as important for the company. The recent pandemic brought things like reliable broadband and cycling and walking infrastructure into sharp focus and these can be important in facilitating an overall balance and retaining staff.

In terms of collaboration with universities to support the envisaged growth, Michael stresses that Somex will need to access new talent and a pathway to that talent could be developed through things like work placement for third level students and structured relationships with universities. Because of the company size and time constraints there hasn't always been the bandwidth there to actively engage.

While there is potential to interact with research groups and Somex has had successful interactions with CAPPA (a photonics research group in MTU) and has been able to take advantage of Enterprise Ireland funding initiatives in the past, this is definitely something which Michael sees the potential to develop further.

> ***There are real benefits for people to work in a small company like ours … But there is a need to ensure that rural areas are served by reliable broadband and infrastructure…***
>
> ***The quality of the people and their quality of life leads to a degree of stability and longevity and loyalty…***

Key Success Factors

While Michael acknowledged that the growth and development of the company was not always along the lines of a coherent plan there were key elements that have contributed to the success to date.

A major element was the initial identification of the opportunity and formation of the company. That step is usually inextricably linked with the experience and expertise of the founders and that is certainly the case here.

Another significant point was the decision to split the company and to concentrate the business in a more coherent direction. Michael explained that one aspect of the business was serving a more international market while the Automation side was developing an important regional client base. Making the decision to divide the company cannot have been easy but was a necessity for growth as it had become difficult to coordinate resources across very diverse business activities.

This concentration and focus on the specific contribution of the company is also evident in the decisions to avoid, for example, diversification into mechanical engineering through development of CNC expertise.

Throughout the conversation Michael focuses on the people within the company with an eye to attracting and retaining new talent and an understanding of the importance of the quality of life.

Identification of opportunities to benefit from the innovative solutions that the company has developed and to be able to market those more broadly is an important step in growth as the company develops further.

A further key success factor highlighted by Michael is the adaptability and the security that comes with being a flexible organisation – Somex has the ability to expand into any sector as opportunities arise.

> ***Part of our growth strategy at the moment is to be looking outside the special purpose applications … to find a larger market for the processes and equipment that we have designed and built …***

Collaboration

With a very small management team, the priorities tend to be the customer facing interactions; however, they have taken part in some training offered by Enterprise Ireland such as the International Sales programme, and other providers. The company intends to broaden such engagement at a more strategic level in the future.

Because of the project nature of the work interactions with customers are crucial to the development of solutions and equally the network of suppliers are important. Most of this supply chain is national rather than international.

Interactions with third level universities in Ireland have included talent acquisition, student work placement, and some research and development activity. There is potential for the company to develop a deeper engagement with university departments and research labs in the future.

"International work can be done but for us as a company there was no point in looking further afield, there was absolutely loads of work to be done in Ireland – and there were real advantages to be physically close to the customer..."

Gerry Reynolds

SME's Owner

Takumi Precision Engineering

COUNTY
Ireland

CONTACT
Gerry Reynolds

DATE OF INTERVIEW
11.05.2021

METHOD
Zoom Interview

LENGTH
70 Minutes

INTERVIEWER
Kevin Fitzgibbon

Established in 1998, Takumi Precision Engineering is a leading global engineering solutions provider employing about eighty full-time staff members and occupies a custom-built facility of approximately 3,700 sq.m. in Raheen, Limerick. Gerry Reynolds, the Owner and Founder, has over 25 years of experience in manufacturing engineering. In the early stages of his career, Gerry emigrated as a young engineering graduate to Fujitsu in Japan where he assimilated into the country's culture and learned Japanese. He spent six years in Japan gaining excellent knowledge and experience in engineering and subsequently returned to Ireland eager to establish an engineering business of his own.

When establishing Takumi, Gerry made reference to his time spent in Japan by naming the company after the Japanese word for "craftsman".

Takumi services the multinational sector in Ireland and abroad, manufacturing low to medium volume precision components and precision machines. The company's core competencies include the manufacturing of precision machines, components, bought using CNC milling and CNC turning, as well as wire EDM, and other specific Engineering Technologies. .

NOTE

HEI = Higher education institution | SME = Small and medium-sized enterprise

Understanding of Growth

Gerry stated that it his ambition to grow year on year, outlining his personal view that 'businesses need to grow or die'. The company has generated large increases in revenue year on year, and this is his most significant indicator of growth. He considers an annual growth rate of between 10%-20% as sustainable, and the company has put various plans and strategies in place to ensure and facilitate that growth rate.

The nature of the company's growth is organic, and not due to acquisitions or other types of growth strategies. Gerry stated that this is due to the nature of the business: it is very 'skill-specific'. He also referred to limitations surrounding access to capital, and organic growth is the only way he can see for the business to grow.

When asked if he thinks engineering manufacturing companies have some level of uniqueness in the way they grow, Gerry responded affirmatively and stressed the importance of scaling to grow. He believes such companies need a well-defined business model but they often struggle to develop one.

He said his own company has a wide variety of aspects, challenges, and customer needs, and when all those elements are scaled it can become very chaotic, especially if it is scaled too quickly. So in his opinion, scaling is not always a good thing, for example if the makeup of the work is too fragmented. Gerry stated that fragmentation as well as the high capital outlays required are the two biggest growth inhibitors for engineering companies – particularly in the Irish market compared to the major economies in mainland Europe (e.g. Germany), where there are more customers, wider product ranges and a different nature of work.

The nature of the Irish market means there is a tension to be managed by the company in its business practice. On the one hand there is a need to have a diverse portfolio of products and customers, to protect the company from being overly invested in one sector, to maintain turnover and keep growing. But on the other hand, diversification can become a hindrance, if there is no common theme to the business, and can act as a barrier to scaling.

One strategy Takumi has adopted is to become a more all-encompassing supplier, for example by metal finishing aspect of the business to be done in-house. This is a strategy that he presents to customers both in the aerospace sector and perhaps in the medical device sector, promoting well-finished parts that are made as much as possible under one roof. This approach allows for increased agility within the business, lower logistics costs and makes Takumi a more integrated supplier. Gerry went on to outline this as a strategy for growth in terms of the value the company can add, the amount of business they can process themselves and with turnover and gross margin. It also serves to mitigate risks arising from Brexit, in his opinion.

Regarding growth from new product development, Gerry said that Takumi has been involved in own-product development and had brought a product to market, but in one sense, new-product development is forever ongoing in the company for their customers. In any given year 35%-40% of the products are only made once or made for the first time in that year. There is a high level of engineering involved, and Gerry regards this as just the nature of the industry. Takumi specialises in low to medium volume manufacturing, and the nature of that type of manufacturing is that sometimes demand slows.

Due to Covid, Takumi have refocused much of their operations on the medical device side of the business, partly as a result of the impact the pandemic has had on the aerospace industry.

Motivations for Growth

Gerry described what motivates him to grow and scale Takumi. He said he wants Ireland to be in a place to compete on an international level, to have a solid engineering manufacturing base and productive supply chain capabilities. This is what drives him not only in his own business but also helping other companies in the industry and in clusters.

Gerry brought together the Emerald Aero group in order to support a fellow owner/manager from the North of Ireland whose business went to liquidation. By forming and mobilising this network of individuals within the aerospace industry they were able to find a position for the individual and draw on his extensive knowledge and contacts. Gerry saw this as an opportunity not only to aid a fellow individual within the industry, but also to create business benefits for his network.

Challenges from Growth

At one point, Takumi was supplying other organisations with parts for their products, and it made sense for Takumi to expand into that space through product innovation. The product was a disposable medical tool, to be used by surgeons. It was a radical idea at the time, as most tools would be used and then sent away to be cleaned. The idea was a good and viable one, but as Gerry outlined, they may have been naïve regarding their ability to bring the product to market; Takumi was too small an organisation to do so, and lacked a salesforce and the brand heritage to get traction in the market.

While it was one of the few SME's in Ireland to bring a medical device through CE marking and to market, it couldn't quite gain enough momentum. On the other hand, Gerry now thinks Takumi would not have been ready for the rampup for production, the amount of money for the medical grade stock, and the support it would need. As an SME it didn't have the size, scale, or power to bring that product to market. While this project did not cause the company much difficulties in terms of finance, it did inhibit growth for a number of years as they were focused on the project's success.

Gerry stressed that access to capital is always a prevalent need for SME's and their growth, not only in his own business but in SME's in general.

There is also a need for the right people and skillset that are looking to grow and develop within an organisation.

Key Success Factors

A main factor in the success of Takumi is the retention of staff; if this can't be done the company could not scale or grow and would eternally be caught in a loop. The importance of growing and developing their own staff within the organisation was highlighted by Gerry. While Takumi may not be able to compete with the recruitment efforts of larger organisations, they can offset this by focusing on staff retention.

Gerry stated that he learned a lot in the 'Leadership for Growth' initiative that Enterprise Ireland provided, that describes growth, why companies grow and how to achieve growth. One piece of advice that resonated strongly for him was that a business owner needs to have a board, advisory group or even industry peers to 'bounce ideas off'. He relayed an anecdote about a fellow businessman that owned a PCB manufacturing company, who showed him how to do management accounts in Takumi's early days, and that template is still in use today.

Gerry has developed a large network of groups and individuals through the years to discuss business difficulties and ideas. This has been a huge help and important to factor into the success of the organisation, helping him remain calm in the face of adversity, and combat the loneliness that goes with being the owner and manager of an SME. While some owners/managers won't get involved because they are extremely busy individuals, in his opinion these groups are important to SME success, growth, and development.

Within the Emerald Aero cluster the organisations began sub-contracting to one another, which at the time was unheard of. Now, rather than declining a job Gerry will accept it and contract out to another organisation within the cluster, ensuring the customer gets the product or service they need, with a consistent point of communication.

Business leader importance

In a management sense, Gerry highlighted that many of his employees are in their first job and on average will have been with Takumi for an average of 10-15 years. Takumi's CEO has been with the company since it's inception. Gerry has put this down to his focus on employee retention and management to avoid constant turnover of staff.

> ***But throughout the last 20 years the common theme has been writing business plans for the next two years***

COOPERATION FOR GROWTH

Cluster Collaboration

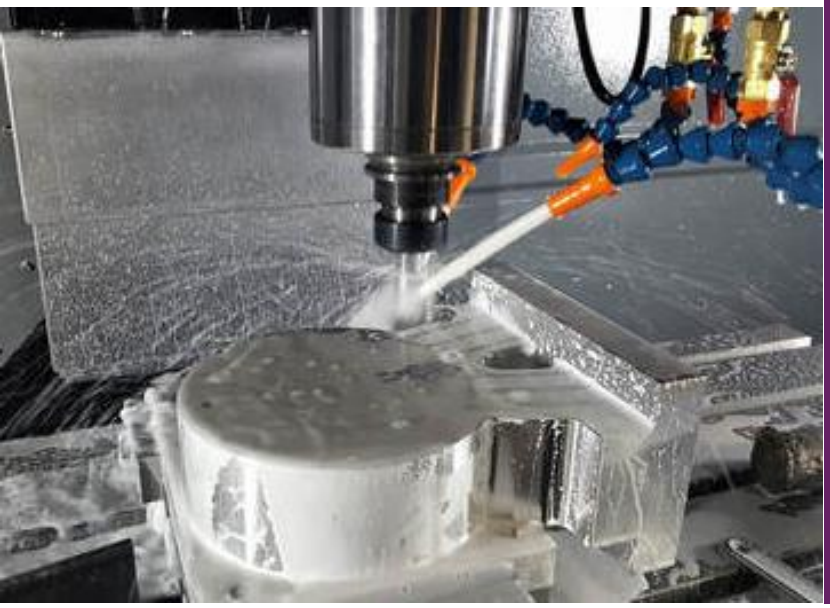
The Emerald Aero cluster began as a network of industry peers with good relationships that decided to form a single brand for both domestic and international marketing. They attend trade shows as a group under the one umbrella, but also work on networking and relationships as individual organisations once they are there. A key selling point is that the customer gets small company agility with large company resources.

Emerald Aero has helped each member exponentially with growth, with each of them over a 4-5-year period growing by up to 20% per annum. With assistance from Enterprise Ireland, the group has opened new international markets that could not be exploited as individual companies.

> ***There's been a lot of sharing in terms of how we structure our business, how we manage our business internally, how we recruit, and how we train***

Keith Cronin

Torc Precision Engineering



COUNTY
Ireland

CONTACT
Keith Cronin

DATE OF INTERVIEW
12.05.2021

METHOD
Zoom Interview

LENGTH
50 Minutes

INTERVIEWER
Kevin Fitzgibbon

Keith Cronin is Managing Director of Torc Precision Engineering which was established in Kerry in 1979 by Denis and Teresa Cronin, Keith's parents. Denis was a tool maker and after being made redundant from a large multinational company (MNC), he started his own business doing general fabrication jobs for local customers. In 1985 the company was incorporated as Torc Precision Engineering Ltd and in 1992 moved to its current dedicated facility. They now employ twenty-three employees with a turnover of just under €2 million.

In 2016, having gained 14 years experience in mechanical design and product development at Liebherr Container Cranes, Denis and Teresa's son, Keith Cronin left his position as Chief Engineer and began the transition from one generation to the next, taking over Torc.

Torc now offers machining including CNC milling and turning machines, production solutions, fabricated products and specialists, manufacture products, general fabrication, design services, design services consultancy, maintenance and servicing, and a retail counter.

Keith believes Torcs' success is due to their focus on maintaining strong customer relationships, investing in facilities, technology, machinery and their staff team. They've invested in technology and now every staff member has their own CAD license. The entire IT system is cloud based; including accounts and production. They use Fusion 360 design software which they find excellent because it allows remote collaboration which they've started engaging with over the pandemic. As Keith says: "Definitely, technology and digital technology is extremely important to us".

Understanding of Growth

Torc works to customer orders, and the company's growth had been mostly organic in nature. It has grown at a steady 10-15% in the past five years, and turnover is now at c. €2m per annum. This has been due to both repeat customers increasing their orders, and through positive word of mouth generating new business.

Keith did mention that the company is heavily reliant on the construction sector, and as a result suffered greatly in the recession of 2008-2012. They have since built back up and aim to continue to grow at a steady rate.

The company continuously invests in new machinery, replacing old equipment machinery every year. Recently Torc have also expanded their production premises.

Together these aspects have been two major investments on the business's part. Keith stated that they have made every effort to finance these improvements based on cashflow. However, they did take advantage of Covid support schemes made available to businesses. Torc were able to obtain below-cost finance via CCI loans and applied for government 'Leader' grants.

Motivations for Growth

One of the organisations main growth drivers is the need to be mostly self-funded. In their perception, the scale of Torc is such that they are too small an organisation to benefit from significant Enterprise Ireland funding, and too large for Local Enterprise funding. Therefore, by growing in terms of size, capabilities and revenue they will be able to continue to self-finance their investments, as well as maintaining operations and staff employment.

Challenges from Growth

The Engineering Manufacturing sector is struggling to find interested and trainable staff, which Keith believes is a systemic problem, as young people are not encouraged into manufacturing. He would like to see more awareness of the range of skills, apprenticeships and potential jobs available in manufacturing during second level education. "There's no point in pushing everybody towards software and IT; it's not for everyone and manufacturing uses technology in a very practical way which may suit a lot of people."

The difficulties in recruiting staff is the main reason Torc isn't growing faster at present. "We're turning away work at the moment, we have been for the last few months. If I had the staff, I could do an awful lot more work".

Torc trains their own apprentices as Keith finds that apprenticeships from are being trained in outdated methods and technology. "In terms of fitting and toolmaking, it's still based on old fashioned techniques, using a file on a bench and hacksaws. You know, they do a small bit of machining, in college, but there's virtually no CNC machining, no 3D printing. There's no exposure, really, to 3D CAD. And, like the industry is left behind really, to be honest".

Challenges from Growth ctd

Keith has investigated using Lean programmes in the past but considers them impractical for companies their size. “The problem with a lot of those lean programs is that they are so data driven. That's very good if you're making 1000s of medical devices, or if you are in the food, beverage industry or something like that”.

> ***You know, they do a small bit of machining, in college, but there's virtually no CNC machining, no 3D printing. There's no exposure, really, to 3D CAD. And, like the industry is left behind really, to be honest”***

Key Success Factors

A key factor in the success of Torc Engineering is in the diverse range of sectors their customers operate in. Keith outlined that Torc’s services range from machining and specialist product manufacturing, fabrication, repairs and extends to design services and retail. They are currently positioned in a market sector that is well placed to take advantage of continued organic growth.

Another key factor in the success of the organisation Keith stated is the maintaining of customer relationships. Torc has very strong customer relationships, with their top 10 clients being with them 20 to 30 years.

Keith also highlighted the importance of investing in facilities and investing in staff. Torc constantly invests in their machinery and technology, and also in the training of staff that goes along with that.

One aspect highlighted by Keith is in the technology transformation in their office area. Beginning with very basic IT equipment, now there are multiple work-stations and all their IT systems are on the cloud. They also use a could based product design system that allows them to collaborate remotely on projects.

Keith gave an example of a current project they are working on to develop a product, for which they are collaborating with a design engineer in Poland. However, one implication of these developments is the greater risk to the business from any internet malfunction, which would cause a severe impact.

Business Leader Importance

Keith has taken on many roles within the organisation himself and is very hands-on, on the plant floor. There is a great deal of integration within the management levels but he is reluctant to hire specific department managers due to the size of the business.

External Support

Torc accessed LEADER funding to upgrade CNC equipment which they wouldn't have been able to do otherwise. They also accessed Commercial Credit Investments (CCI) loans which helped the business to cope during Covid 19 restrictions, and a small grant from the Sustainable Energy Authority of Ireland (SEAI) for lighting upgrades.

They also took advantage of a Strategic Banking Corporation of Ireland (SBCI) loan to expand the factory. "It is difficult for companies our size to access funding, because we fall between two stools between the Enterprise Ireland and the Local Enterprise Office (LEO). We're not big enough or export orientated for Enterprise Ireland and too well established and big for the LEO".

Regarding collaboration with HEIs or other companies, lack of time is a major barrier to greater use of such supports, even tough Keith acknowledged the potential benefits of peer support through clusters and networks.

"It is difficult for companies our size to access funding, because we fall between two stools between the Enterprise Ireland and the Local Enterprise Office (LEO). We're not big enough or export orientated for Enterprise Ireland and too well established and big for the LEO."

Victor Twohig

T&T Precision

COUNTY
Ireland

CONTACT
Victor Twohig

DATE OF INTERVIEW
13.05.2021

METHOD
Zoom Interview

LENGTH
68 Minutes

INTERVIEWER
Kevin Fitzgibbon

T&T Engineering was established in 1996, founded by Victor and Finbarr Twohig, two brothers who are qualified toolmakers. They were predominantly active in the electronics space, and injection moulding. Being made redundant prompted Victor and his brother to form T&T Precision. They initially built injection moulds in the agriculture and electronics sector. They realized that the electronics sector was heading east, and the medical/life sciences sector was heading west, mostly coming into Cork via Stryker, DePuy and Boston Scientific. The duo shifted gears and started suppling and serving these larger multinationals. Initially they were a very small business, just the two of them, until they eventually took on an apprentice.

Victor identified aerospace as an emerging market in Ireland and began by companies in aerospace such as SR Technics and a range of other local companies. This gave a taste for the aerospace and aviation activity. Victor outlined that he had little interest in creating ancillary tooling, and he instead carved out a niche in building product for the finished goods. They scaled up for that and then T&T Precision also expanded to include a fabrication division, based on a need from DePuy and Stryker and the baskets that go in and out of cleanrooms. Victor found he was losing business offshore because he could not do the fabrication. There was no interest in splitting the creation of the baskets and the components, so it was decided to do the fabrication in house.

Today they still have both the fabrication and aerospace divisions of the organisation, with 40% of business being in aerospace, 40% would be life sciences and orthopedics and the remaining 20% is misc.

Originally, they held a facility in Sarsfield Road in Wilton, but were under pressure from customers to grow. There were barriers in the form of rent and the units they were occupying. They then identified a new opportunity to move facilities to Curaheen. This was two buildings totaling 32,000 square feet. This allowed them to build a manufacturing facility that had over €5 million invested in it. As the organisation grows, they continue to invest around €500k per year in capital equipment.

NOTE

HEI = Higher education institution | SME = Small and medium-sized enterprise

Understanding of Growth

T&T Precision rapidly expanded and experienced some dips in their initial years due to commercial decisions not going their way. Victor outlined they that have organically grown rather than growing through acquisitions. This has been furthered by his participation in both Enterprise Ireland engagements and in the Emerald Aero group cluster

Victor outlined that one way in which he grew the organisation was by identifying the up-and-coming aerospace market in Ireland and began expanding into it gradually. By entering the market early, they were able to establish themselves and now (Pre-Covid) up to 40% of their business comes from aerospace.

Another growth strategy highlighted by Victor was the consistent capital investment and buying of new machinery.

Emerald Aero group is one of the first things mentioned when asked about growth. It was stressed that while all members are separate legal entities, their collective turnover allows them to compete together for larger deals. The business changed when it comes to quality accreditation, that comes down to a competitive tension. They do not want to be left behind, so they engage in programmes that give them these accreditations. They allow T&T Precision to work in aerospace and to manufacture FDA approved product.

One major difference that Victor has experienced comes in part from the establishment of Emerald Aero Group. Where before they would have encountered the other member organisations organically and had a negative mindset towards the interactions, that transformed after the establishment of the cluster. Victor now feels as though they can all speak openly even as competitors.

There have been growing pains associated with the changing ways in which they carry out business. This has been felt throughout the business where they have brought on a management board to ease some of the pressure experienced higher up.

One of the main needs for SME's according to Victor is the access to skilled resources and access to funding.

Additional support is also needed, according to Victor, when it comes to understanding processes and the 'seemingly endless' hoops that SME's need to jump through to qualify for funding.

Management boards were also highlighted by Victor as being of high importance.

Victor outlined they currently have very low levels of automation in their facility. It has been found that the globalised T&T has become the more competitive they need to get in the next world. They have however invested in a new ERP system and that is performing on an internal server. In order to further their foray into digital they have taken on an employee who is a graduate from MTU to aid in aligning the system to the business. Summarising Victor stated that the ERP system and the company's quality systems are semi-automated at the moment.

When it comes to training or upskilling his staff, Victor highlighted that employees rarely come to T&T Precision ready to work. He stressed there is a huge knowledge gap and oftentimes he will get students in prior to graduating in their free time to become familiar with the machinery and processes.

Victor stated that by aligning with larger companies, it allowed T&T Precision to move along a growth path with them. In 2005 Victor explained that several commercial decisions went against his company in the life sciences/medical device field, particularly with Boston Scientific, and he realized the need to mitigate the risk of over-concentration of their business customer base.

Motivation for Growth

One of the main motivations for Victor is the maintaining of what he calls 'Ireland Inc' and the ability of Ireland not just to compete with a few countries but be ranked globally. .

Challenges from Growth

When asked about barriers to growth and if access to finance was something that proved a challenge or barrier to T&T Precision, Victor had high praise for their chosen bank AIB. But one thing that was mentioned is the length of time taken for a decision to be made (in relation to lending) was frustrating at times. This caused issues with purchasing equipment, equipment repairs and process implementation. Victor outlines that these delays can impact the organisation's ability to retain previous customers and gain new ones.

Another challenge outlined was that on occasion Victor has experienced larger organisations poaching staff from him. This, he explained, was counter productive as it slowed down his productivity, in turn harming the larger company's output.

Victor also highlighted the 'bureaucratic hoops' that SME's are expected to jump through.

Key Success Factors

One of the key success factors for growth was outlined as engagement with Enterprise Ireland, and engagement with clusters. By engaging with pathfinders funded by EI via the Emerald Aero group Victor stressed that he saw huge amounts of growth.

Business leader importance

Victor demonstrated that he has immense ability when it comes to mobilising a network and utilising that network to identify growth opportunities.

Another important ability that Victor has demonstrated is in the identification of business opportunities. This was clear in his identification of aerospace as a growing market in Ireland, and the strategic pursuit of that sector.

A management team was introduced by Victor and his brother to release some of the pressure placed on senior levels in the company, as part of an essential transition period to ensure future growth for the company.

COOPERATION FOR GROWTH

Networking & Collaboration

Victor had high praise for the government aid they received during the pandemic and went on to stress that government intervention is the reason that T&T Precision were able to remain operational in the aerospace sector and retain their staff.

Victor stated that T&T Precision is 'a good client' of Enterprise Ireland (EI) and has availed of multiple capital grants, currently on their third. All three grants combined to a total of €750,000. Victor has availed of EI's market discovery fund and has used EI for agile funding and feasibility funding. Additional grants include lean, graduate and mentorship grants. These along with innovation vouchers in conjunction with MTU.

T&T Precision had collaborated with MTU on four innovation vouchers. project as some of the components of a prototypThey have also spoken with Athlone IT about the possibility of entering an innovation partnership e they are developing are plastic. Athlone IT are the centre of excellence when it comes to polymers.

Victor stated that he does hire graduates and currently has five in employment. One aspect of this is the difficulty in recruiting and keeping up with large competitors. Victor outlined that while they do offer an attractive package to potential recruits, they cannot compete with what the likes of Stryker have on offer.

Victor tends to engage with recruits while they are still in MTU, bringing them in on evenings, nights, and weekends. It was stressed that it is always MTU he gets recruits from, very rarely other institutions. This works on several levels, one being that this allows students to earn some money and learn about the machinery and the business, and Victor gets people to maintain machinery for him. It was also outlined that this builds up a loyalty and affinity to the organisation and gives Victor a chance to vet incoming employees.

Victor is a founder member of Emerald Aerogroup. One benefit found from being part of the group are the pathfinders financed by Emerald.

Speaking in relation to programmes that MTU have currently in development Victor highlighted the importance of encouraging more young people to choose a trade over a more technical role. He feels as though it is something that should be encouraged by higher education institutes. These programmes should be developed in conjunction with organisations at all levels in industry, and not just with larger multinationals

Joe English

Head of Enterprise
Meath County Council

Image retrieved from: https://www.meath.ie/

COUNTY
Ireland

CONTACT
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DATE OF INTERVIEW
25.05.2021

METHOD
Zoom Interview

LENGTH
52 Minutes

INTERVIEWER
Cameron McCoy

Joe English has been the Head of Enterprise at Meath County Council since 2015. He is a small business, start-up, and development professional with wide experience in managing pan-European innovation projects.

Joe received his B.E. in Electronic Engineering in 1980 and his MSc in Innovation Management in 2015. Joe previously worked as a software engineer at a large multinational company, at a start-up that created computing machines, and later co-founded his own company that produced automated vision inspection tools for industry.

After selling his company and moving back to Ireland, Joe's local government offered him a position helping start-ups in the county get on the route to growth. In his current role, he has also worked with the European Commission on small business development and small business growth.

Understanding of Growth

There are two ways of looking at SME growth: the government in Ireland defines SME growth as an increase in the number of employees, financial turnover, and potential for export.

Growth can also be described as SMEs growing their product line or their service to include either a wider product offering or a wider potential client base. This ensures that the SME is not only in a small niche market, giving the business some defence against risks and competition. This point of view looks at growth in terms of getting a company to a point where they can "survive and thrive".

In terms of government support for SME growth in Ireland, two funds can help SMEs grow: the Innovation Grant and Enterprise Ireland's Agile Innovation Fund. These funds supply both hard and soft support for businesses to help them get through the innovation process. Hard (financial) support is targeted at the smaller companies that lack the money and time to produce the innovation themselves. Joe identifies such companies that have the potential to develop and undergo an innovation process. SMEs with potential are helped to develop a realistic plan to get an innovative product to the market.

NOTE

HEI = Higher education institution | SME = Small and medium-sized enterprise

Alternatively, soft support provides training and short-term, one-to-one mentoring use experts in management and technology. These help the SMEs with any issues they are experiencing and allow them to be more targeted in their approach.

Additional support for SME growth is provided by Meath Local Enterprise Office, which offers more tailored training for SMEs.

Growth Strategies

According to Joe, engineering SME growth is about constantly looking to go further and do more. This includes looking for new products, services or clients.

Joe identifies two main growth strategies, the Meath Economic development strategy and the Local Enterprise Office's strategy. The Economic Development Strategy for Co. Meath aims to create 7500 new jobs in the city over the lifetime of the plan, and approximately 1000 new jobs a year. The economic strategy consists of three pillars- economics, spatial planning and marketing, to attract and support business in order to achieve the ambitious, yet achievable 7500-job target. In doing so, the Council is actively engaging with and building relationships with businesses that have a role in economic development, harnessing talent and creating attractive living environments.

Further, the Meath Local Enterprise Office (LEO) provides an information and advisory service to new and existing entrepreneurs on all aspects of setting up and running a business. The Meath LEO provides support and services for those looking to start, grow and develop a business in Meath. The office also acts as a source of information for all state enterprise agencies and other initiatives, providing information on enterprise incentives, business structures, taxation, regulatory obligations, market research, etc. Services to local businesses can include the provision of business information and advice; business skills training; mentoring support; financial assistance; and management development programmes. The LEO also spearheads various initiatives to encourage and promote enterprise across the County working with business groups, community groups, various other local and national bodies.

Motivators & Challenges for Growth

Businesses often decide to grow out of fear that they will lose their competitive edge.

Yet, fear can also be a demotivator of a small company. It is important to get the SME's owner-manager out of their comfort zone to think of possibilities for the future.

> ***Engineering SME growth is about constantly looking to go further and do more. This includes looking for new products, services or clients.***

Business leader importance

Having good leadership is a key success factor. Successful business leaders tend to have a good grasp of their industry. They have open personalities and are receptive to suggestions and ideas, especially from their employees and external contributors. They also have a strong sense of self-awareness and are open to admitting faults.

Cooperation Partners

The Meath Local Enterprise Office works with local chambers of commerce and the businesses in the region. Meath County Council also works with other government bodies, for example the tourism board to ensure that companies who are involved in tourist services or products get the support they need.

Cooperation with Universities:

Through Innovate Ireland's Agile Innovation Fund, which provides funding and training assistance, many experts are brought to help SMEs. These experts are either in the technology transfer office, or academics themselves. The Meath Local Enterprise Office makes SMEs aware of the help that they can get from universities, and also refer the SMEs that need advice to the relevant university staff members.

Opportunities for university-business cooperation

There are currently not enough major projects going on between universities and businesses. The different timelines that universities and SMEs have, and the amount of funding required, means that sometimes collaboration between the two can be difficult. Funds such as the Agile Innovation Fund can help bring necessary resources from the university to the company.

There are also possibilities for collaboration between universities and SMEs in education and training of SME employees. It is also useful to direct university resources to the business as a whole instead of a single person. Employees can receive short term trainings and courses that can be tailored to the needs of the business. It may also be beneficial to work with groups of owner-managers who are, for example, working in a particular technology field and create specialized trainings for them. Companies would be more interested if they see a direct benefit to further themselves.

When SMEs and universities do collaborate, it is important to set expectations early for a relationship. Meath Local Enterprise Office clients are made aware of university activities that could benefit their businesses.

The different timelines that universities and SMEs have, and the amount of funding required means that sometimes collaboration between the two can be difficult

Growth Training Needs

There may be a need for training of SMEs to be able to identify other businesses' needs. There is a growing opportunity for businesses to develop their own products and services to fit the needs of other companies.

There may be an opportunity where smaller businesses that have useful technology offer their knowledge services to other companies that do not have that knowledge or may not be able to afford to hire other experts in that area. An example of this may be ensuring that when an SME offers new technology, it also offers the backup service and support for the technology.

As technology gets more complex, and as manufacturing and services become more automated, there is going to be a different relationship between service providers, product providers and customers, one that is more than likely going to be longer-term. There is a great opportunity for the service provider to have a recurring revenue stream.

“There may be an opportunity where smaller businesses that have useful technology, offer their knowledge services to other companies that do not have that knowledge or may not be able to afford to hire other experts in that area.”

Álvaro Montero

Senior Innovation and Growth Specialist
Coventry University Enterprises

Image retrieved from: https://www.coventry.ac.uk/business/our-services/

COUNTY
England

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DATE OF INTERVIEW
27.05.2021

METHOD
Zoom Interview

LENGTH
45 Minutes

INTERVIEWER
A. Zinovyeva & J. Villagran

Alvaro has a mixed background that has granted him extensive international experience, having worked both in the United States and Europe. He is currently working in the UK, where he started working on Research and Development activities four years ago.

Alvaro provides innovation and growth services for SMEs that are mostly funded by Innovate UK, the national governmental body for innovation in the United Kingdom. Through these services, he helps SMEs in their growth journeys that go further than just obtaining funding, covering other growth possibilities such as internationalisation, product commercialisation, collaboration opportunities or stakeholder's identification.

Alvaro also has experience in business development in different sectors, which he believes to be one of the key elements that every SME - with a certain degree of R&D in its model - needs to address.

Understanding of Growth

To Alvaro, growth means an increase in turnover, mostly revenue from sales, as well as experiencing an increase of resources to respond to those rising sales. There are, of course, other ways of growth that are not strictly on the financial side. For instance, adding new products and services to the company's portfolio or simply increasing the company's capabilities and the offering to their clients. In Alvaro's opinion, growth is more vertical than horizontal, and it affects sales and resources (people, equipment, etc.).

In terms of defining a timeline for growth, this is not an easy task to determine, as it depends very much on each company's goals. Some companies aim to increase their turnover by 15-20% a year, while other companies aim to scale and become a 300 person operation.

NOTE

HEI = Higher education institution | SME = Small and medium-sized enterprise

Engineering SME Growth

Ways to engineer SME growth depends on the company. Established companies do not usually experience exponential growth, but rather rely on their clients and brands, and prefer a model that allows them to grow steadily. Start-ups, however, are more likely to experience exponential growth, since they get more funding and take bigger risks.

Based on Alvaro's experience, he does not see rapid growth in engineering companies very often, and when he does, it is a product of innovation and tends to be linked to R&D grants.

Growth Strategies

Alvaro identified a number of growth strategies, including R&D grants, collaboration with other companies and organisations, internationalisation, and scaling by trying to reach new verticals with the same solution. For his latter strategy he pinpointed that if a company has developed a solution for a specific sector and that solution applies to other areas, "why not pursue it?"

> ***It is important to understand the current situation of the company and to make sure, before undertaking a big project that there is capacity, skills, willingness, and vision to accomplish each goal.***

Transformation

To Alvaro, transformation potential is clearly a matter of resources.

Companies need to first look at their culture and their team to understand what they have and what they are lacking. "Does the company have the right people with the right skills in the team to move towards the agreed plan of growth? Does the company have a strong financial position to take certain risks to grow?" The list of questions goes on, he adds.

The second step would be, then, identifying who of their stakeholders the company should involve or rely on when trying to undertake its growth plan. Stakeholders will, of course, depend on the type of growth a company is trying to achieve.

Finally, if the growth is intended to happen through Innovation and R&D, then the company needs to identify potential universities that could support it. Following this, the company could catalyse the creation of a network and find other relevant partners, clients or projects to add to this network.

In summary, it is important to understand the current situation of the company and to make sure, before undertaking a big project, that the capacity, skills, willingness, and vision exist to accomplish each goal. Alvaro puts the example of a 57-year-old member of the senior management team of a company who probably is not willing to adapt to the time difference in Australia. It needs to be a collaborative effort and the whole company needs to be ready for that, especially in terms of passion and energy.

Challenges from Growth

According to Alvaro, *before the transformation takes place*, a number of factors should be met, such as the financial capacity to face new risks; having a team that is ready to embark on the growth process; the identification of the profiles within the team that will drive the growth with passion; reliance on the stakeholders to support the company in the growth process; understanding and capacity to communicate the added value of the offered solution to whomever the company is talking to; flexibility, which is not always easy for a company with needs, tight deadlines, and other pressing forces; and maintenance of normal operations (clients, sales, bills, etc.) while you are preparing or moving towards a new stage of seeking growth and taking risk.

Subsequent to the transformation, the ability to consolidate and to re-structure the company based on that is a key factor. However, the process for that depends heavily on the main driver of growth. In particular, a company that has gone abroad and entered the international market now must now deal with customs, different languages, cultures and time zones, new clients, etc. All those factors need to be understood and integrated within the operation of the company. Additionally, if the main driver of growth was R&D and a company has been working with a university, part of the knowledge needed for R&D sits at the university. The company might not have the full picture of the technology it wants to exploit, which means a team with the right knowledge is needed to really take advantage of the opportunity. Moreover, when talking about approaching new sectors, it might be worth it to bring business developers with 10-15 years of experience in those sectors to help the company consolidate its position in that market.

A general challenge, regardless of the driver, would be to understand the transformation and bring it “in-house” in order to reduce the number of third parties on which the company depends.

Key Success Factors

Digitalisation is clearly one of the key success factors for SMEs. Many digital tools improve performance and provide knowledge of the operation of a company, and not many firms use the tools. Looking at the funding that digitalisation-related initiatives get, both at the European and national levels, one can see the importance of the topic. This is particularly true in the case of engineering, where many of these tools can help a company gain a competitive advantage in cost, productivity, and more.

> ***Digitalisation is clearly one of the key success factors for SMEs; many digital tools improve performance and provide knowledge of the operation of a company, and not many of them use those tools.***

Business leader importance

Successful business leaders tend to have a good grasp of their industry. They have open personalities and are receptive to suggestions and ideas, especially from their employees and external contributors. They also have a strong sense of self-awareness and are open to admitting faults.

Cooperation with Universities

Well established companies, especially those in the fields of aerospace and automotive engineering, tend to be more connected with universities. Alvaro mentioned that this is usually linked to grant schemes that companies have in their countries that “force” them to partner with universities to be eligible to receive funding.

Otherwise, it is very rare to see companies proactively approaching universities solely because they think that a partnership will help them evolve and grow. One exception to this would be companies who have senior management who come from academia and are more willing to bridge that gap or see fewer obstacles to do so. In his experience, people working in universities are usually focused on publications and research outcomes, and do not really understand the business side of things. Thus, the timing of a university might be very different from the timing of an SME, which is a major barrier for collaborations between universities and SMEs.

Opportunities for university-business cooperation

Grant funding is starting to disappear little by little and the world is moving from grants to loans or blended options. Alvaro thinks that commercialisation is going to take over R&D and grants, and now due to the pandemic everyone, including universities, is losing money. Therefore, universities should change their focus towards having a proposal where they cooperate with SMEs for a certain amount of money. The main obstacle here is to turn senior researchers who have spent their whole lives in university contexts into commercially driven researchers with the right mindset to work with SMEs.

If universities were able to undertake that transformation and offer R&D services to SMEs, new generations of researchers would benefit greatly from new incentives, including economic rewards or higher salaries. This would also create new intellectual property for the universities. Alvaro thinks that all universities should start moving to a more sustainable system where they do not rely on government funding and become more autonomous in their operations and actions. Thus, a change of mindset and culture within the university would be the key element of success for greater cooperation between universities and SMEs.

Another opportunity for collaboration has to do with the fact that SMEs are less aware of how to better exploit their IP. To exploit this IP, one of the key steps would be understanding what the current state-of-the-art of a certain technology is. Companies usually do not possess this understanding and they could potentially collaborate with universities, instead of hiring an IP attorney or a specialist in IP, to get advice on the potential development of their own products.

Also, many SMEs who struggle with finding the right profiles or do not have access to specialised candidates could see universities as talent pools. However, SMEs usually do not even think of approaching a university when looking to recruit. That would also be very beneficial for the universities, which would see their employability rates rising.