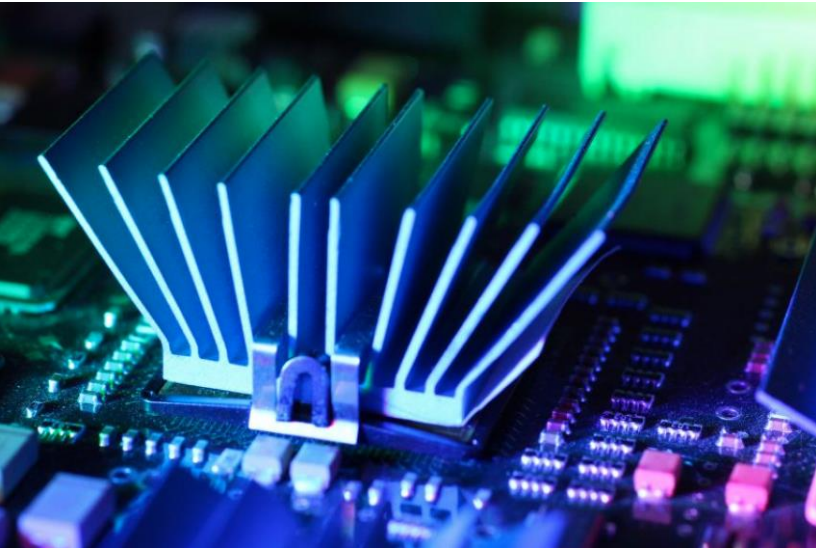


Jesús García

SME's CEO
Aeorum



COUNTRY
Spain

CONTACT
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DATE OF INTERVIEW
11.05.2021

METHOD
Face-to-face interview

LENGTH
120 Minutes

INTERVIEWED BY
Clara Plata

Aeorum was founded in 2009. Initially it was composed by 3 people. One of them a professor at the University of Malaga, an engineer with a PhD in telecommunications who started with an 8% stake in the company. The other two members of the team, the first an engineer with a PhD in telecommunications and the other a computer engineer, came from a marine management company when their project there was about to finish. Even when they set up the company to cover the need for self-employment and were not initially aspiring to anything big, they did know that they wanted to work with the university. That is why they included the professor in the team from the very beginning.

During the first two years, they worked as consultants for other companies, but soon began to do their own R&D thanks to grants obtained through national (CDTI) and international calls for proposals. It was at this point that they entered the University of Malaga spin-off competition and were awarded with a prize in 2013. From then on, they started doing projects from a small office in the University of Malaga building located in the Andalusia Technology Park (Malaga). They continue in the same building to this day, but in a much larger area.

Their administrative offices are in the headquarters in Malaga, but last year they got an investor that will allow them to scale up the business and provide services to large companies.

This growth will be accompanied by the opening of a new headquarters in Madrid, where different operational activities of the company will be carried out, while research and development will

remain in Malaga.

They currently have 20 staff, with the first employee hired in 2012. Generally, workers enter as interns hired through the university and, if they work well, they remain as permanent employees. The company's growth has been parallel to the growth of the surrounding ecosystem that has been created with other entities, which supports the company's activity and feeds into its growth. Therefore, the growth model has been based on the development of projects, technology, human resources (developers' community), SMEs, and purpose-specific spinoffs created by Aeorum.

These strategies and their open innovation strategy have allowed the development of projects both inside and outside the company and can be incorporated both at the beginning and at intermediate stages of the innovation process. This way, they can reach the market in the future through Aeorum itself or through the agents that are members of the innovation ecosystem. That is the reason why they frequently organise events where the whole ecosystem meets with potential customers to strengthen and nurture it. These events usually take place at the University.

People in Aeorum have the opinion that one of the missions of university spin-offs is to publicise their successes in relation to the university, because this benefits them both as part of their quality stamp.

Understanding of Growth

Aeorum technologies are related to robotic management (global robotics) and have a long development cycle. They are front runners in the use and implementation of innovative technologies. In the 1990s, making semi-autonomous robots was complicated, as they had to capture information and process it in real time; this required complex hardware that made them not very operational. The internet solved this problem by allowing the processing of captured information to be done remotely. This enabled the production of lighter robots and the development of advanced technologies for drone fleet management. Currently, different types of systems are being integrated into this management, such as cameras, anti-drone systems, etc.

The innovative approach of Aeorum is to connect the drone to the cloud so the pilot can be anywhere in the world as long as they have connectivity. The computing and application are also done in different locations, allowing for different command and control centres run by different companies. As a complement to this distributed management system, Aeorum is creating an architecture that allows users to have access to different applications from different places.

Recently, Aeorum started developing projects with state security forces by collaborating with a community of freelancers and external entities. Their working model with them consists of subcontracting freelancers and entities

with the commitment that part of these funds will return in the form of licenses for the use of the platform. By doing this, Aeorum manages to reduce development time and costs by capturing innovative ideas and solutions that they would never have developed due to a lack of time, methodology, and knowledge. This lack of knowledge is covered by the introduction of external talent (Technology in), while the company earns revenue through licensing and technology transfer which allows the commercialisation of their technologies to their partners (Licensing out).

The dynamic established by Aeorum allows open innovation based on university-business cooperation, end-user experience, external professionals and other companies, which includes not only technology development, but also the knowledge management and future commercialisation strategy by third parties.

Regarding the end-user community, Aeorum started working with army and police departments, which have no restrictions on the use of drones. This collaboration opened the door to an international network which resulted in more projects for the company, some of them related with the use of drones as defence mechanism. In this sense, their platform also functions as an anti-drone system for cities. The latest step has been to turn the platform into a global robotic control system which also incorporates electric cars.

Motivations for Growth Concept for Growth

Their main motivations have been more the personal satisfaction of developing their project (70%) than making money (30%). The latter has become more important as the project has developed, and the time has come to focus on commercialisation as opposed to R&D.

In the beginning, growth was about raising funds. Once they got the funding, they developed their own technologies. From there, growth was about getting those technologies in the market.

Growth Strategies

Until now, the strategy has been based primarily on the creation of the ecosystem of external developers thanks to which they have been able to develop the R&D, resulting in their current products. Now, the growth strategy is based on attracting investors who will provide the funds to develop the products which are then sold.

Their next step is to turn the platform into an open platform (Market Penetration). They prefer to start with prices that imply small returns to make their products known, even if there may be losses, so that, once consolidated, they will focus on making profits from them.

Challenges to Growth

Getting funded was the most important challenge. They have also had some technological challenges, but they started from knowledge which has made technological challenges generally avoidable. In this particular case, the most difficult thing is to raise finances without diluting their capital.

Transformation for Growth

Until the last four years, they have grown in number of staff, and revenues were maintained thereafter. The ecosystem they have created has not allowed them to grow further because it would not be sustainable to have more staff or to apply for more projects.

The increase in staff has meant creating a management area for the staff, having to enter into quality policies, etc.

With the entry of the new investor, they expect some further growth in terms of personnel, but they do not want it to be much because these funds should be used to grow the new operational centre they are developing in Madrid.

Key Factors for Growth

It has been fundamental to have access to public funding and the university, which has provided them with access to human resources and space to develop their activities.

Regarding the leadership in Aeorum, the ability to network has been fundamental, as has been the ability to identify and measure opportunities. Leadership, management skills, and knowing how to delegate have been essential and for that it was necessary to have a good and trustworthy management team. Another important skill has been knowing how to manage new employees, as they encounter many problems with the young people they hire, which they have found to be the case in other companies as well.

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In the beginning, growth was about raising funds. Once they got the funding, they developed their own technologies. From there, growth was about getting those technologies in the market.

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Partners

In Aeorum, they closely cooperated with SMEs, freelance developers, end-user associations and academics from the very beginning.

For them, almost all aspects of the collaboration have been positive. Despite this, there are still difficulties arising from the rhythm of work of other types of entities, but being aware of how they work is not so problematic, rather it is something to adapt to.

Cooperation with University

Collaboration with the university was mainly in the field of research. Most aspects of this cooperation have been positive, giving them access to human resources, spaces and infrastructures, institutional support...

The negative aspects were mainly bureaucratic, as administrative procedures are always very slow and sometimes make it very difficult to develop projects and initiatives.

For Aeorum, a big point of cooperation is that the University usually invites them to events with students that facilitate their access to fresh co-workers.

“ ***Collaboration with the university was mainly in the field of research. Most aspects of this cooperation have been positive: access to human resources, spaces and infrastructures, institutional support...***

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Training Needs

The training philosophy of Aeorum is that by incorporating new people into the team, they gain in skills more than in knowledge. They have been providing the necessary training themselves because the technology they apply is their own and therefore training is not an area they need to cover.

Digitalisation has not been a problem for their company, as most of them are telecommunications or computer engineers. For them, training in this area is a natural and continuous process.

All other training areas are covered by sending staff members to events where they learn what they need, for example, from European projects.

Awards and Recognitions:

University of Malaga Spin off Award

SME Instrument

Recognition of the Malaga police force

5th Edition of the Malaga Business Awards (Malaga Provincial Council 2017)

XIII Telecommunications Night, Young Enterprise Award (2015)



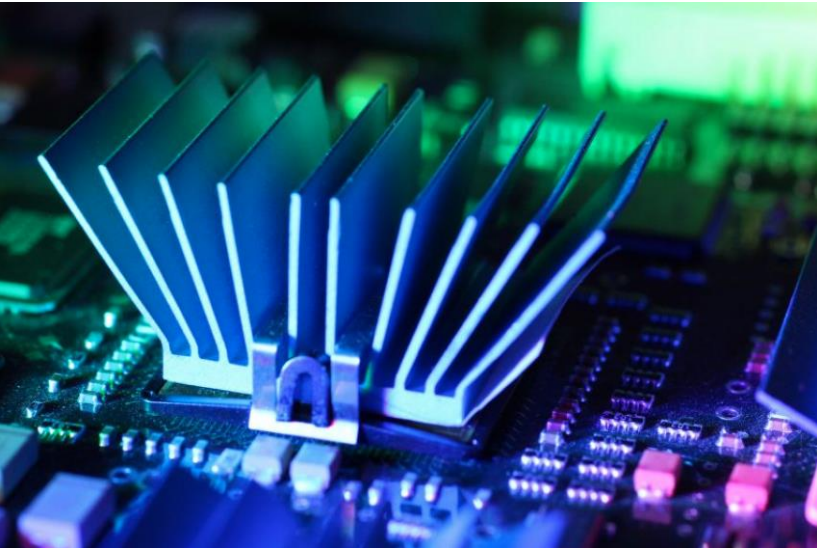
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Digitalisation has not been a problem for their company, as most of them are telecommunications or computer engineers. For them, training in this area is a natural and continuous process.

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Antonio Gómez-Guillamón

SME'S CEO
Aertec



COUNTRY
Spain

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DATE OF INTERVIEW
19.05.2021

METHOD
On-line interview

LENGTH
60 Minutes

INTERVIEWED BY
Clara Plata

Aertec was created in 1997 by two aeronautical engineers who worked in Vitoria for four years. They decided to set up in the Andalusia Technology Park (PTA), which had just been created. They wanted to focus on airport design, taking advantage of the fact that AENA (the public company that manages airports in Spain) was going to launch a programme to promote them. Malaga seemed like a strategic location because of the logistical advantages and the proximity of the university, so they decided to take the risk and create their own company to take advantage of these opportunities.

It was a purely entrepreneurial initiative; they had pursued creating their own company since they finished their degrees but having previous experience working in a company was very useful when setting up their own.

The growth was progressive, rapid and organic. Within a year there were 3 people, then 5 and so on. They started with an office dedicated to the aeronautical sector and another one focused on general engineering, but they decided to exclusively focus on airports, which meant constant growth as they won projects because it was an area in vogue. Malaga airport became their head engineering office, and with this experience and background, they began to offer their services to other Andalusian airports and then, in 2000, they won a contract for Fuerteventura airport, their first outside of Andalusia. They won their first international project in 2001 with Luton airport in the UK, but it coincided with the 9/11 Attacks and the project wasn't completed, remaining halfway through. For them, it was essential to be very focused on one area and to have reference projects to teach in order to broaden the sphere of influence.

In 2002, Airbus hired them to do a project that required knowledge of airports and the aeronautics industry, which allowed them to start working with them at a time when they were launching a new A400M assembly line. This allowed them to open their second line of business, this time focused on the aeronautics industry. The pace of growth was maintained throughout this period.

They partnered with Airbus, giving them access to in-development functional tests for aircraft, leading them to open their third line of business in 2005: systems.

Each line has grown differently, but none has stopped growing since its creation. From here, growth has been linked to international expansion and the acquisition of new clients. The first subsidiary outside Spain was opened in England in 2008.

They then became a strategic supplier to Airbus Group (2014) in manufacturing engineering. Their first acquisition of an international company was in 2018 when they bought a company in Hamburg (Germany). In terms of the number of employees, they started with 2 and now have 600, with a presence in Spain, the UK, Germany, Colombia and Peru. They also have registered offices in the United Arab Emirates, USA and France.

There was a time when they started to work on the design of unique (technological) buildings, but this was a line they had to close due to the crisis. This made them decide to focus exclusively on the airport and aeronautical industry. They have made mistakes, but the missteps have helped them to correct their course and focus on the area in which they have really done well.

Concept of Growth

Until recently, their growth has been organic, being clear that they had to grow every year. For them, the aeronautical world is very big and they have to keep up with it to stay in the market.

Another reason is that they look for employees who are committed to the project and who are bright and see opportunities to grow professionally. Therefore, the only way to maintain these

profiles is to grow in order to be able to offer a living organism that can accommodate this professional development.

Now that they no longer consider themselves an SME, they are adopting acquisition as a growth strategy because they can afford it and it is much quicker to access markets in countries where they want to be present.

Growth Strategies

In terms of strategies, they have employed several along the way. They have used a lot of growth in partnership with partners and collaborators to develop projects as well as market strategies. They made some mistakes in the beginning, such as not focusing on specific countries to offer work internationally. This made them realise that they had to prioritise and focus on the most interesting and strategic markets.

Its growth has also been related to diversification within the same market environment, with the three business lines described above.

Regarding financing, everything came from their own funds and the resources generated by the services. They negotiated credit lines with the bank to finance working capital but have managed to grow mainly by reinvesting the funds generated by the company. They have also relied heavily on regional, national, and international projects to develop R&D and new capacities, but these are not a

"reliable" source of income because they involve co-financing. This financing strategy has been sustainable, although in Spain financing growth is not easy, as these funds are paid later which can be a problem for cash flows and a major brake for growth.

Another key strategic issue has been finding the right clients. Working for large multinationals has helped them to open markets and push for growth.

Finding the right people willing to travel and with the right mind-set and motivation is another important factor.

They decided to finance with their own funds instead of investors in order not to lose freedom of decision. They consider that growth cannot be excessively fast because there would be no time to organise the staff while maintaining high-quality projects. In this track, they have been able to survive without investors while maintaining a steady pace of growth with a long-term strategy.

Growth has meant an increase in the number of employees, which has complicated management and made it necessary to create structures to support this management. Financial management has also become more complicated.

"When you deal with international companies it becomes even more complicated because you have to deal with regulations in other countries" says the CEO. Therefore, they have planned very well for the needs arising from growth and the company built up a management

structure with experts in each field. For example, they had an HR manager at an early stage with the mission of choosing the right people and checking that they were doing their job well and so on. They also had someone in charge of financial management, marketing, and communication from very early on. The latter has always been very important to them, and they have had very good results in this respect.

For them revenues have been on track to finance growth.

Transformation for Growth

Motivations for Growth Key Factors for Growth

The first motivation was that they were in a global sector, and you must be up to the task. A second one was offering professional development to people entering the company.

Key factors have been their focus on a specific and very global sector, working with multinational clients, and building up a committed and highly professional team of people and managing to keep them by retaining talent.

Transformation for Growth Importance of the Leader

The growth of support structures for the core business has kept pace with the increase in staff and income.

For them, the leaders must have the strategic vision on how to grow, find the opportunities and seize them without losing focus and know how to guide the team in the right direction, leadership is fundamental. They also consider important that their leadership has a very organised way of working internally, as for example the CEO and his original partner created a code for their first project when they were the only the two working in the company. Today, they have all the work codified based on this example.

Challenges to Growth

They still have challenges, particularly when looking for highly motivated and committed staff with an international spirit.

As they have been financing themselves through their own performance, financing is also a challenge.

“

A company has to live of its sales and public funding serves to boost R&D, but it should not be fundamental to their survival

”

Partners

They have cooperated with other SMEs, clusters and universities from the beginning. For an SME, it is essential to cooperate in order to win contracts.

Regarding collaboration with clusters, the CEO leads the Andalucía Aerospace cluster, because it is very important to get to know other companies in the sector.

“When you collaborate with another company you run the risk that they may want to take advantage of you in some way, but it happens rarely and it is worth the risk. It is important to be totally transparent. Nothing negative stands out in general”, asserts the CEO.

“

The university complements the R&D that an SME cannot have, the company knows the market and the university does not; that can generate very interesting synergies.

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Cooperation with Univer

They collaborate with universities in the search for human resources and research groups who provide R&D that they do not have.

Regarding universities, the most notable negative aspect is their slowness. In many cases they are a bottleneck as it is difficult for them to keep up with the necessary pace.

They see opportunities to cooperate with universities, mainly with research groups. The university complements the R&D that an SME do not have, while the company knows the market and the university does not; that can generate very interesting synergies.

Main Needs

Their most important needs consist of finding people with the right skills, financing through banks to acquire working capital, and learning about business management tools in order to be able to manage the company properly.

Training Needs

When they were first growing, they mainly needed management skills training.

They believe that the university should know what the market is asking for in order to train in things that are appropriate to the demands of the market, they should be more flexible.

They currently need training in BIM, in fact, they are training people in BIM for the airport area. In other areas, they need people with a good command of electronics with embedded software and knowledge of digital technologies such as AI.

Awards and Recognitions:

They have received support as an SME since they were born in the PTA incubator, which gave them certain facilities and help in the early stages of the company. The company needed help in communication, in which they received support from Bic Euronova (business incubator located in the PTA) and from the PTA itself.

Awards and Recognitions:

Young Malaga Award from the Association of Young Entrepreneurs (2004)

In 2011 he received the SCIE National Computer Science Award

National Award of the Association of Young Entrepreneurs (2005)

2015 Medal of Andalusia for business promotion



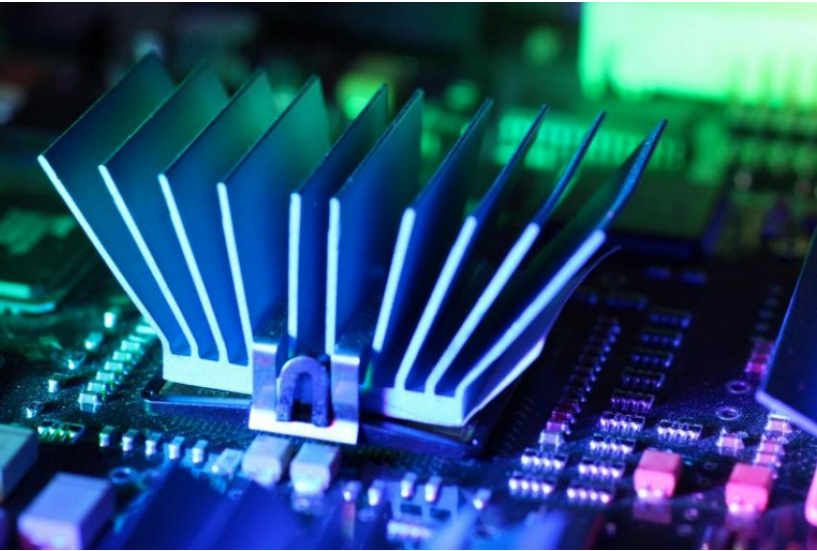
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The only way to maintain these profiles is to grow in order to be able to offer a living organigram that can accommodate this professional development.

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Antonia Lorenzo

SME's CEO
Bioazul



COUNTRY
Spain

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DATE OF INTERVIEW
11.05.2021

METHOD
Online interview

LENGTH
90 Minutes

INTERVIEWED BY
Clara Plata

Bioazul is an engineering company specialised in the field of water. It was born from a group of 6 Spanish people working in a German R&D centre who wanted to return to Spain or stay in Germany. It came up as a way of returning and capitalising on the skills they had gained working in Germany, mainly on European projects. Three of the six people wanted to go back to Spain, while the other three preferred to work from Germany, as they were German. Nowadays there are only 2 partners in Bioazul, Antonia Lorenzo, CEO of the company and a German partner.

After analysing different options in Spain, they saw that Andalusia was an opportunity because water is a necessity there and they already had a product developed in this area, so they finally settled in Malaga. The company was created in 2003 and they came in 2004 with some projects already granted. Today, the company has grown to a team of 14 people (50% women, 50% men).

At the beginning, there were two people working on projects and on an initial product that they brought developed from Germany. The original idea was to penetrate the market with this product, for which they needed more staff, and after three years they hired, first on internships through universities then on permanent contracts, several people with whom they expanded their staff and were able to create a specific projects department.

Bioazul works in two departments: the first is products and engineering services in the field of water, and the second is consultancy for third-party projects. In this second department, they do not operate as a typical consultancy firm, as they tend to participate in their own projects, although they also offer project preparation and management services to third parties. They have had 64 projects to date, 59 of them international, financed by several calls for proposals.

These two departments have been growing over the years. Right now, they have 5 full time personnel in projects, 4 in products, one in communication, one who works half time in projects and half time in communication, 2 in administration and one in management.

Their products come out of internal R&D, which they develop within projects and contracts with companies. They do more research innovation. Participation in projects mainly allows them to do technology watch.

Having defined the departments, growth has been driven by staffing needs in projects or products, or by the opening of new lines.

NOTE

Motivations for Growth Concept for Growth

Their main motivation is to improve the quality of work and to optimise their available capacities and time.

Growth is associated with improved organisation and optimisation of resources; they aim to improve the quality of day-to-day life. To Bioazul, growth is about having more capacity to make better use of the resources they have, rather than having more people in charge or increasing turnover.

Growth Strategies

Their growth strategy is based on making the most of their advantages and optimising what they have so that everything works as well as possible. In fact, they feel that right now they have grown too big, preferring to have a smaller team that is easier to control.

Growth has been driven by the development of new projects or products. It has grown as necessary to address the needs of the moment.

They do not have the structure to support a product manufacturing line, nor do they want to. In products, they have direct contracts to carry out specific jobs. The specific funding for personnel growth has come through the European calls for proposals in which they participate. For them it has been a sustainable strategy.

Challenges to Growth

The biggest challenge for Bioazul is staff management, which is very important and exhausting, so they prefer to have a smaller team. "The more people you have, the more things you have to keep track of, and it creates a lot of wear and tear" they say.

Of course, finding funding has been another major challenge.

Transformation for Growth

Growth has mainly involved an increase in staff. On the revenue side, turnover has increased in a linear fashion, the more they have the more they reinvest in the company.

The growth in the project and product departments made it necessary to create two transversal departments: administration and communication.

Key Factors for Growth

Critical for them was the knowledge about European projects that they already had, so they were very successful in applying for projects and that gave them the resources to recruit and expand their staff.

Another key element was the fact that they had services and products to market from the very beginning. The first product they had was not successful, but along the way other things came out that worked.

“

Growth is about having more capacity to make better use of the resources, rather than having more people in charge or increasing turnover.

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Most important Needs

They started out needing a larger space. At first, they were in two different locations in the Parque Tecnológico de Andalucía (Málaga) and then they moved to the city centre. Over time they have also needed a warehouse to be able to develop their products.

They have also needed to strengthen cross-cutting departments and improve management.

Access to funding is also crucial. They have never had external funding, they have always obtained it through projects.

Importance of the Leader

Antonia believes that she has had an eye for creating a good team that is committed to the company's objectives.

Leadership at Bioazul needs to be very skilled at creating networks that generate opportunities, as well as in identifying and measuring opportunities and making the company visible.

She believes in effort and perseverance, rather than intelligence.

“

The biggest challenge for Bioazul is staff management, which is very important and exhausting, so they would prefer to have a smaller team.

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Training Needs

They do a lot of internal training, for example in European projects, but with an important part of "learning by doing". They promote, for example, the participation of some of their employees in info days.

They do provide training in safety, languages, new tools, among others. Many times, the workers themselves propose courses they want to take.

Regarding digitalisation, they have small courses on social networks. They are setting up a CR and will do a course for those who know it to teach others how it works. They have not had any major

training needs.



Partners

They have collaborated with all kinds of entities, as it is necessary for the projects.

Some of these relationships have been strategic, as they have found partners with whom they have collaborated to include each other in national and international projects. They have found key partners who have enabled them to access projects and increase the likelihood of success.

They have also relied on other SMEs to distribute their products. They participate in many initiatives at the national and international levels to create and consolidate networks that have helped them both to market and to create projects.

They have worked in (mainly international) collaboration from the beginning, they have always understood it that way.

Cooperation with Universities

Initially, it enabled them to get interns to support project development. Now they are working with Master's students on projects. He finds it a very enriching thing for them and for the students.

They also work with universities on many European projects and to offer consultancy services. They also sometimes organise events for them.

On the negative side, universities are very rigid, they have a lot of bureaucracy. Sometimes, jobs are not capitalised on because they don't get into framework contracts. Contracting in the public sector is very complicated. The OTRIs do not work well, he has tried to collaborate with them on several occasions, but they have not achieved good results.

Support Experiences

During their period of growth, they have had important support from a Torres Quevedo grant (grants from the Ministry of Science and Innovation for the recruitment of researchers), but they have had no other specific support for SMEs.

The universities have given them access to trainees who in many cases have remained with the company after the end of their traineeship.

At the beginning they were housed in an incubator (BIC Euronova) which had some cheaper services (rent, access to tax and accounting advice...), which was also a support in their beginnings.

Awards and Recognitions:

On the anniversary of BIC Euronova

Eco-Innovation Award

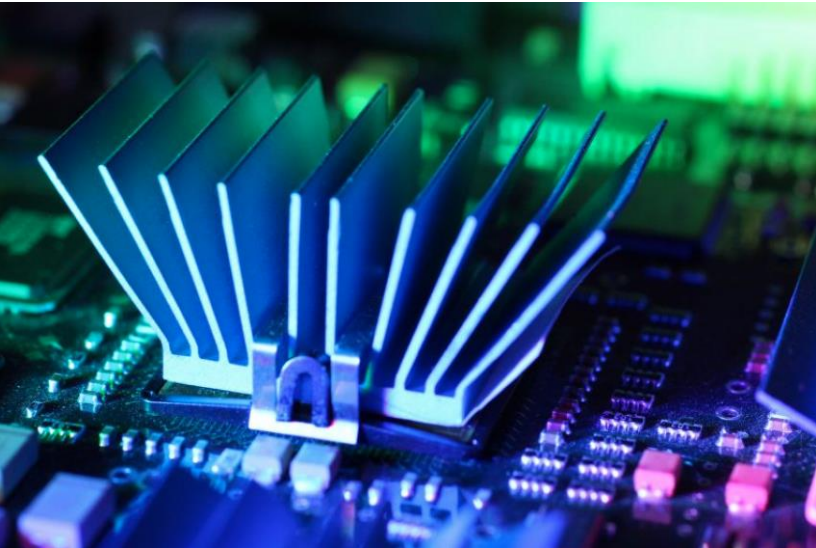
Málaga Viva Air Prize of the Málaga Provincial Council

Best SME in Gender Equality

Raquel Serrano

SME's CEO

Fiixit Orthotic Lab



COUNTRY

Spain

CONTACT

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DATE OF INTERVIEW

25.06.2021

METHOD

On-line interview

LENGTH

60 Minutes

INTERVIEWED BY

Clara Plata

The idea of the company began to take shape in 2014 when the current CEO was finishing her degree (Industrial Design Engineering) and was working on her Final Degree Project (TFG), which consisted of manufacturing a chair for children with motor difficulties.

The idea for the project was proposed by a professor at the University of Malaga (UMA) following an initiative of the Andalusian Regional Government through a collaborative project.

In September, she asked the university to print two parts to build a chair, to which the UMA School of Engineering replied that she had to pay the cost of the material, which amounted to €3,000.

Seeing that there were cheaper 3D printers on the market, she decided to buy one, which she assembled with help of her father and which costed her €520. This is how she got started with 3D printing.

She finished her degree with very high marks, and just after that she started helping her mother to liquidate a family shop that they wanted to close. Simultaneously, she became interested in the world of entrepreneurship and started talking to the Andalusian Entrepreneurship Centres (CADE) office in Alhaurín de la Torre (Málaga), where she lived with her parents. So, she found a job as an engineer to carry out 3D printing work with the printer she had made for her dissertation. She ended up becoming self-employed in 2015 and then applied for the spin-off programme as 3D Málaga.

Shortly afterwards, her sister-in-law who is a dentist, asked her to make some rulers that are

used for dentistry and she began to work in this sector. One day, while having dinner with her partner, she saw a child with in a cast and this gave her the idea of creating a company dedicated to making custom-made splints. To do this, she needed a scanner and a higher quality printer. After winning the first spin-off prize, she raised the necessary funds and was able to buy the equipment and join Link, the entrepreneurship centre of the UMA.

She later contacted a traumatologist who told her that it was a very good idea, but that she needed to mature it a little more and that when she did so he would provide her with her first patient. At the same time, she found an orthopaedic surgeon who also offered to help her.

In the meantime, she applied to the Explorer call of the Santander Bank (<https://explorerbyx.org/>) for training in entrepreneurship. She was awarded 1st prize in this call, as a result of which she gave his company its definitive name (FIIXIT Orthotic Lab) and went ahead with the idea.

The first patient arrived in July 2016. He was a 7-year-old boy who had broken his arm, whose parents were trauma nurses. At that time she was no longer at Link, but at Farola (Aceleradora de empresas del Ayuntamiento de Málaga, <https://andalucia.openfuture.org/reto/la-farola/>), where they gave her the necessary support to get a lawyer for helping her cover the regulatory aspects related to the manufacture of the splints. The splint was a success and from this point onwards, other cases arose with very good results. These first splints were made on a trial basis free of charge.

From there, she began to investigate how to prepare the documentation to turn these tests into a lucrative business. As it was a very new system, the company was subjected to several inspections before being granted a licence. On the first occasion, this licence was rejected, but they finally got it in May 2017.

In July 2017, they left La Farola and moved to the premises where they are now. Later she found a health entrepreneurship programme, *Emprende in Health* in Madrid, for which she was selected (multinational Lilly and Unltd Spain). This allowed her to continue with and strengthen her idea and from that point, she got more orthopaedics and more clients. After the Lilly acceleration programme, she decided not to apply for any more programmes and to focus on the development of the company.

The innovative nature of the idea and its social focus earned her the medal of the Order of Civil Merit awarded by King Felipe

Concept of Growth

The growth has been organic, slow, very structured and with a lot of effort and work. The current CEO was alone until last year, working only with the occasional help of her relatives.

Motivations for Growth Transformation for Growth

The motivations for growth are to take the company forward. It is their way of life and their future, which is their main motivation.

Challenges to Growth

Among the main challenges for growth, they identify the traditional mentality of the (health) sector and its regulatory hurdles, not having the necessary income to operate, administrative barriers present in the country, the lack of public support, which in most cases is scarce and very slow, the value placed on R&D, since most people are not aware of what is behind the developments that are made and currently, and COVID-19, which has been a major brake.

VI in June 2019. The media coverage of this event led the Fundalogy investment fund of the Unicaja Banking Foundation to take an interest in his idea.

Thus, they hired an external person to evaluate the company and calculate the resources needed to grow. They reached an agreement that was signed in December 2019 and in January 2020, two people joined the team. They started to take off until COVID-19 arrived, stopping their growth. At that time, they started printing masks and visors for toilets and created a community of makers that helped them.

After that, they set up their first facilities in Malaga and then in Las Palmas de Gran Canaria. They now have 10 facilities all over Spain, thanks to which the orthopaedics companies themselves print their splints. Currently, there are four people working full time and one working part time.

Growth Strategies

The strategy has been to consolidate the product from technical and regulatory standpoints. This growth strategy has been very well prepared, allowing the company to grow thanks to personal investment and finally thanks to external investors.

They have had to rely on an external consultant for accounting. They meet with their partners every month to see how the company is doing. There has been a big evolution that is still in progress because they are in a growth phase.

Key Factors for Growth

The factors that mainly contributed to their success were having an environment that gave them a lot of support (family, partner, friends), having the security of a secure job, even if the idea fails and mainly, having a truly disruptive idea. Being a pioneer in the field was also important. Until a few months ago, there was no multinational involvement in 3D printing for orthopaedics.

“

*The growth has been organic, slow, very structured
and with a lot of effort and work.*

”



Cooperation with Universities

They have received support from the University of Malaga in terms of entrepreneurship training.

As opportunities for collaboration between the company and universities increase, they see that the university could have collaborated more by carrying out studies on the biomechanics of the brace, or technical analysis of the characteristics of the splints, for example. They did not end up collaborating with the university because when the company applied for the partnership, the university asked a lot of money and the company couldn't afford it.

Importance of Leadership

They consider that qualities of the leaders in Fiixit shall be both tenacity and perseverance, in addition to having the ability to see the positive side of things, networking skills and communication skills.

Needs for Growth

They were frequently in need of access to finance. This did not come until it was distinguished by the King of Spain. After that, they began to attract investors.

Training Needs

While first growing, they needed training in entrepreneurship. That's the reason why one of her partners is currently doing an MBA in digital marketing and she is doing a degree in Orthopaedics.

They also need training in financial accounting. The CEO is currently being trained in this area by her accountant from the consultancy firm.

Support for Growth

They recognize that they received support from the University of Malaga, the regional government, the "Junta de Andalucía" (in terms of media impact) and, financially, by Unicaja.

Awards and Recognitions:

Entrepreneur Award I Edition IKEA Malaga Talento

University of Malaga Spin-off Award

Yuzz Malaga Award for young entrepreneurs

14th IMFE Junior Award

EntrepreneurInHealth Award

La Farola de Málaga Award - Commitment to equality in new technologies.

Commemoration M of Malaga

SECOT Awards

Royal Household Award, King's Recognition (to 30 Spaniards) Medal for Civil Merit in 2019

Diario Sur and BBVA Evolution Award - Adaptation of a classic model to new digital technologies.

Fedelhorce Award - In recognition of its entrepreneurial spirit and capacity for innovation.

Margarita Salas Award - Business Project Category

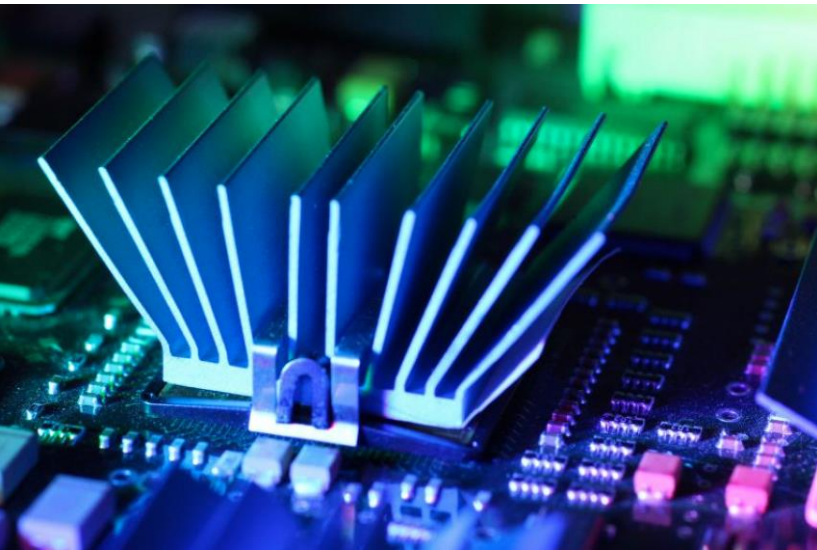
Innosocial Award

They were frequently in need of access to finance. This did not come until it was distinguished by the King of Spain. After that, investors began to arrive.



Javier Pedraza

SME's CEO
GreenGlobe



COUNTRY

Spain

CONTACT

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DATE OF INTERVIEW

17.06.2021

METHOD

On-site interview

LENGTH

60 Minutes

INTERVIEWED BY

Clara Plata

The concept of the company was created by the three partners as a result of the project management course of the Environmental Sciences Degree of the University of Malaga, which supported them in the development of the idea through the Vice-Rectorate of Infrastructures of the University of Malaga (UMA). During the process, the Vice Chancellor told them about a call from the Board to which they submitted several projects. Although none of them were approved, the name of the company was borne out of this first exercise.

From then on, the entrepreneurs started to work with the botanical garden of the University, in particular with the database of the species in the Garden.

Once they finished their degree, the three of them became self-employed and started working as a team, as if they were a company. They started doing more projects for the university (Biouma,

environmental education) and finally started doing projects outside. In 2012 they were incorporated as a company. Since then, they have developed projects for the administration and companies of different sizes.

They currently have three lines of business:

Development of applications for environmental management (environmental indicators, measurement of light pollution), Environmental consultancy (supporting companies to become more sustainable, supporting procedures related to environmental regulations) and Environmental education.

They started with 3 people and now they are 9, although they have grown to 15 when they have needed to.

NOTE

Motivations for Growth Concept for Growth

You either grow or you die. The main motivation has been survival. They grow thanks to their clients recommending them, they are motivated by doing their job well. Their best commercial technique is a well-done project.

For them, growth does not mean growing in terms of turnover, but providing ever greater value to their clients. They are not looking to have a lot of employees, but to do high quality work. Their personnel growth has been organic.

Growth Strategies

They have not had a growth strategy as such but have sought the necessary resources to be able to take on the projects that have been requested in each of the business mentioned lines above.

Growth has been financed through their own resources; part of each project has been destined for growth. They have not sold shares, although they now have a credit policy from a bank.

It has been a sustainable strategy. They emerged amidst the crisis and have learned to manage themselves well financially.

Transformation for Growth

Every time they have grown, it has happened naturally. The growth has not had a big impact because they have not grown abruptly at any time.

Challenges to Growth

At the beginning they did not know how to prepare tenders, which were very necessary for them, nor did they know how to manage staff or motivate staff. The latter is a challenge they still face every day.

It is very difficult to find employees with the adequate human resources. They need talent with very transversal profiles who share the company's vision, which are not easily found.

They also learn about subjects that are not in their field. For example, at the beginning they did not know how to value their services economically, how to put a price on their work. Then they have worked on products, which are easier to value, but valuing the hours of work is still very complicated.

Funding has not been a big challenge because they have always been very conservative. Being in services at the beginning, their expenses were small.

“

You either grow or you die. The main motivation has been survival.

”

Most important Needs

Human resources, mainly. They receive a lot of CVs, but it is very difficult to find people with the right profile and attitude.

They have had to be trained in business management to cover the deficiencies they had in this area. The solvency has come from the fact that they have been constantly on the job.

It is important that the administration values the quality of the services offered. There are companies that do what is asked of them, but with very poor technical quality that is not penalised, which means that the quality of the work is not really valued.

“

They have had to be trained in business management to cover the deficiencies they had in this area. The solvency has come from the fact that they have been constantly on the job.

”

Training Needs

Some of the main training needs are on management skills, business management, procedures for setting up a company, marketing, human resources, and validation of business models.

When they have training needs, they contract specific courses to cover them, but they do not have many. They have had no training needs related to digitalisation, instead they have gradually adapted to it.

Regarding internationalisation, it would be good for them, but more in application than in training. They have signed collaboration agreements with foreign companies to develop business abroad and could use more support. Encouraging an entrepreneurial mind-set among employees is also very interesting.

Importance of the Leader

The unique skills they identify are the ability to make contacts, cultivating a network of people who knows them and that their work good is essential. Besides, it necessary for the leader to have the ability to position the company as a recognised brand and a sales strategy focused on the company's values, the ability to communicate well and to manage work teams.

Key Factors for Growth

Growing in projects was fundamental. Starting to win tenders and having the technical and economic solvency to work on larger tenders were key.

Partners

They have mainly collaborated with other SMEs. They have an established network of regular collaborators, working closely with architectural firms and engineering companies to cover the environmental part of their projects.

They also have clients with whom they are so involved with in the consultancy services that they end up becoming their partners. They also help growing companies and end up becoming their partners.

They have participated in clusters, but not actively. They have been members of the "Confederación de Empresarios de Málaga (CEM)" since they created the company and have made many contacts thanks to them. They are also members of the Energy Efficiency Cluster.

On the positive and negative aspects, trust is the basis for cooperation. Transparency is also very important. They have had good experiences when these factors have been present.

Cooperation with Universities

They have their origins in the UMA and continue to work with it, continuing to run the environmental education part and the database of the botanical garden. They have also worked in collaboration with the infrastructure and entrepreneurship departments. They have also participated in European proposals with the university.

For them, the existence of a centre which links SMEs to the university is a very positive thing for companies in the growth phase because of the support given in training and services for new companies.

The most important negative aspect is the lack of orientation of researchers towards the business world, with all that it entails when it comes to developing projects with them.

There are also opportunities to apply the research carried out at the university and to show the business reality to the students who are being trained thanks to the participation of teaching staff from companies.

Support Experiences

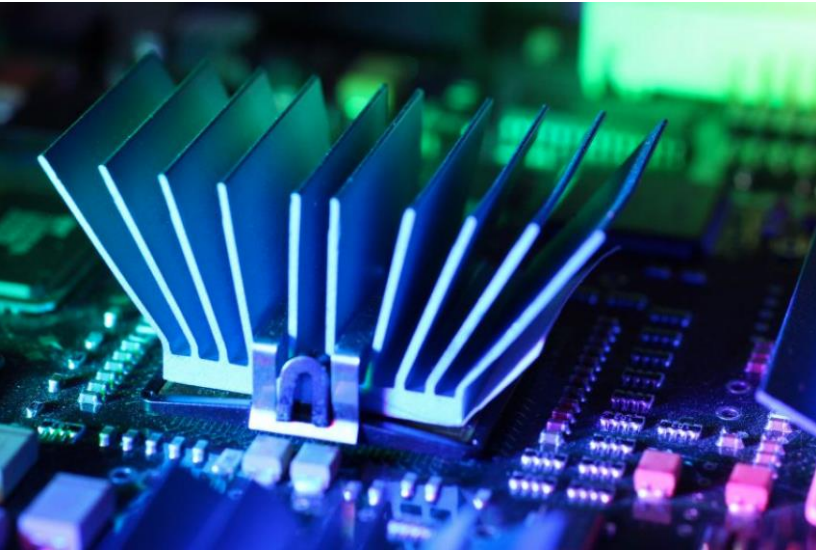
The UMA gave them a lot of support in their beginnings. Other entities such as the Andalusian Centre for Entrepreneurship (CADE), Promálaga (Málaga City Council's public company for business promotion) and the Andalusia Technology Park (PTA) were also of great help. Malaga has a well-established entrepreneurial ecosystem.

Awards and Recognitions:

- 2012 UMA Spin off award
- 2012 finalists of the IMFE awards
- 2015 Hacemos Málaga award from the CEM "Generando futuro"
- 2018 Málaga Viva Climate Change Award of the Diputación de Málaga

José Blanco Arjona

SME's Managing Director
**Advanced Engineering and
Integration (INGENIA) S.A.**



COUNTRY
Spain

CONTACT
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DATE OF INTERVIEW
05.07.2021

METHOD
On-line interview

LENGTH
60 Minutes

INTERVIEWED BY
Clara Plata

Ingenia was founded in October 1992, starting with 14 people, including managers and engineers, in the Fujitsu R&D Laboratory in Malaga. The founding partners were Fujitsu España, SA (40%), the Instituto de Fomento de Andalucía (40%) and ProMálaga (20%), with the latter being the only remaining shareholder. The share capital was 125

million pesetas (about €750,000). In 1993, a few more technicians from Fujitsu joined the company. In 1999 Unicaja acquired the shares of the Instituto de Fomento de Andalucía and in 2006, Madarias Inversiones acquired the shares of Fujitsu España.

NOTE

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

Motivations for Growth Concept for Growth

Under the premise that in the ICT sector, as in many others, what does not grow dies. The main motivation was to reach leadership positions and consolidate the founding project. Let's not forget that Ingenia was born out of a labour restructuring of a multinational corporation. In addition to the need to evolve, growth was also a commitment to shareholders and employees.

Growth Strategies

The majority of Ingenia's sales are based on the provision of services in the areas of cybersecurity, systems integration, software development, consulting and professional ICT services. Commercial action has been the fundamental tool for growth in sales and therefore in the size of the company. Proprietary products have contributed to growth, but to a proportionally lesser extent.

Growth has been financed mainly with their own resources. They have also received investment aid because they are located in Andalusia, more specifically in the Parque Tecnológico de Andalucía (PTA). They have accessed different grant programmes for innovative activities. In the beginning, they also participated in international R&D consortiums.

The company's growth has been sustained and sustainable over time, with a very clear

Challenges to Growth

The first challenge was to survive. Ingenia was born in 1992 at the beginning of a crisis following the euphoria of the Olympics and the Universal Expo in Seville. It was designed to provide services mainly in the regional market with a staff of researchers with no commercial experience. It was a challenge to compete and gain the trust of important clients who endorsed its technological capacity to meet the needs of the market. From then on, size, internationalisation, larger and more demanding customers, and quality

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Let's not forget that Ingenia was born out of a labour restructuring of a multinational. In addition to the need to evolve, growth was also a commitment to shareholders and employees.

”

Ingenia was founded in October 1992, starting with 14 people, including managers and engineers from the Fujitsu R&D Laboratory in Malaga. The founding partners were Fujitsu España, SA (40%), the Instituto de Fomento de Andalucía (40%) and ProMálaga (20%), the latter is currently the only remaining shareholder. The share capital was 125 million pesetas (about €750,000). In 1993, a few more technicians from Fujitsu joined the company. In 1999 Unicaja acquired the shares of the Instituto de Fomento de Andalucía and in 2006 Madarias, Inversiones acquired the shares of Fujitsu España.

Transformation for Growth

strategy of right-sizing for budgeted sales. More recently, the company grew outside Spain with the incorporation of two companies in Chile and Peru.

The step from local to national, passing through the presence in our autonomous community, and in 2011 the international leap to LATAM, which had previously been done through international contracts. The management model also evolved as the business grew, modifying tools as collection management, cash flow rates, people management, and strategic plans, among others.

Key Factors for Growth

maintenance have turned into the new challenges, even though these have been the trials that have helped them to become what they are today.

The technical preparation of the staff has been the key to survival and subsequent growth. A suitable technical level was necessary for new recruits and continuous training was adapted to meet technological evolution and market demands. Collaboration with other companies, knowledge and specialisation in specific economic sectors have also played an important role.

Most important Needs Importance of the Lead

Undoubtedly, talent is their main need. In lower priority, they need access to finance, brand image, and people management skills. They also precise adequate technical means, which in some ways are linked to their investment capabilities.

In Ingenia's history, managers have always been technical staff, mostly engineers. This marks a management style that is very focused on defining annual objectives, planning them and seeking to achieve them. One of the keys to this has been transparency in sharing information with the staff and achieving the annual budget. Management has been directly involved in the detection of major business opportunities, and middle management has always managed the reality of the accounts and the achievement of annual salary incentives through collective work.

It has also been important to participate in associations, consortia in R&D projects, concrete alliances in the execution of certain projects (Uniones Temporales de Empresas, UTEs), allowing them to access a higher level of projects and also to learn more quickly than going alone

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One of the keys to this has been transparency in sharing information with the staff and the annual budget to be achieved.

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Training Needs

Continuous training is for them a need to keep pace with the demands of business growth. In Arjona's case, the San Telmo International Institute has been a continuous platform for training and response to needs.

Digitalisation in the company has been going on since its inception. Digitalisation is more of a name for non-ICT sectors, and it is precisely this intrinsic aspect of its activity and service provision that requires it to be permanently up to date with technical solutions in the evolution of knowledge, etc.

They have a significant budget for training their staff, which they invest in certifications, technical knowledge and skills, including increasingly important people management and performance, among other similar skills.

Perhaps the entrepreneurial mindset, which is more borne than made, is only a little necessary in terms of training, but innovation management, access to capital, business model innovation and internationalisation are without a doubt priority.

Partners

In order to win large contracts, Ingenia has collaborated with major companies from the outset through the establishment of joint ventures. Collaboration with clusters is not noteworthy. In the case of universities, collaboration has focused mainly on attracting talent, although at times it has participated in R&D projects with public funding.

As a negative aspect, the poor management of European public aid by national public bodies, lack of agility and lack of focus in the fulfilment of conditions in some cases, which can be summed up as a lack of experience, must be pointed out.

Cooperation with Universities

Collaboration with universities has taken place in two main ways: with the admission of trainees, mostly trained in ICT, but also with other profiles (teachers, designers, economists), and secondly to a lesser extent, with collaboration in publicly funded research projects, in which one university (the University of Malaga) has participated.

It is not easy to collaborate with the university, as its procedures and timescales are different from the market requirements of a private company, restricting the scope of collaboration. Important in this type of collaboration are the means of the university: talent, physical means and number of resources. The combination of all of the above results in the collaboration being oriented or discarded. It should be noted that nowadays, competition and globalisation mean that solutions reach the market in record time and this does not favour collaboration with the university in many cases.

There are opportunities for collaborating with universities, but they are limited. In case of cooperation, they find that it is important that the universities understand the importance of time, talent and specialisation, physical and human resources, funding in the case of SMEs, and that it is not just about receiving, but about giving. "If they don't have funding and you provide it, if you pay for the results in advance, it must be in exchange for sharing future benefits to some extent, co-ownership of the results. With the university, this happens much less, and to a certain extent because of this and other aspects there is more collaboration with the University than with SMEs" says the Managing Director.

The support was mainly financial, particularly investment aid. Although they are not in a particularly investment-intensive sector, basic equipment is necessary at the workstation (PC). Other support included development applications, communications equipment, basic furniture or similar things.

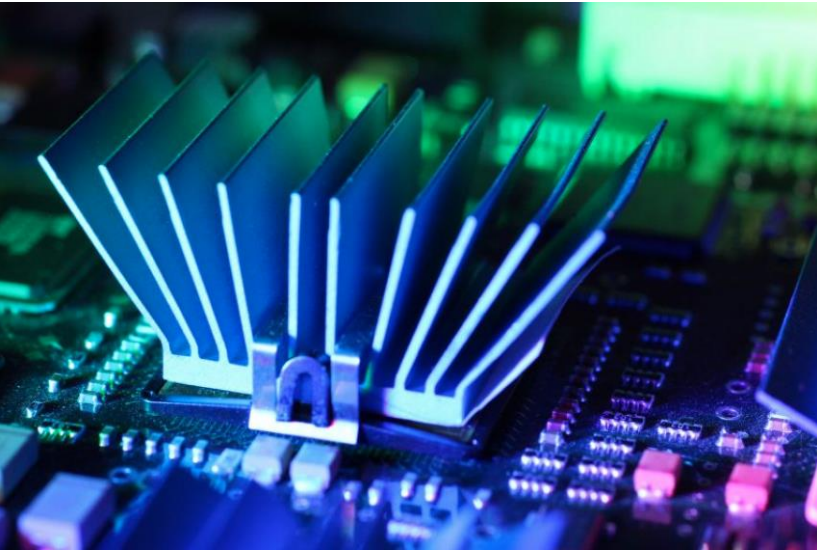
They also want to highlight the role of business incubators, in their case Bic Euronova at the PTA, which helped them by transferring its experience in business administration and supporting them in their start-up.

Awards and Recognitions:

They claim that they have not been a company concerned with winning awards, but even so, they have received some mid-range awards. And of course the certifications, which are not an award, but a recognition of talent to tackle certain technically demanding activities.

Gerardo Romero

SME's CEO
Lynka



COUNTRY
Spain

CONTACT
gerardo@lynka.net

DATE OF INTERVIEW
09.06.2021

METHOD
On-site interview

LENGTH
60 Minutes

INTERVIEWED BY
Clara Plata

Lynka was founded in 2004 in Malaga by four telecommunications engineers from the University of Malaga (UMA) who created the company after graduating.

Lynka is an engineering firm with two areas of expertise: building, and energy and water. The building area is focused on installations for large buildings (hospitals, shopping centres...); and the energy and water area is focused on installations such as desalination plants and wind farms. The company's headquarters are in Malaga, but they have offices in Madrid and Chile. They have 70 employees in total in the group.

When the company was created, they were involved in telecommunications projects in the construction sector, but the crisis forced them to change.

In 2007, the crisis began to be felt and they decided to diversify in order to survive, so they hired engineers from other areas to offer more services on the same project. They started working

in energy and water in 2010, which allowed them to gain international experience and assuage their fear of foreign markets.

The experience allowed them to see that work in foreign markets could be done from Spain and mitigate the effects of the national crisis. Thus, they conducted a market study that led them to identify Chile as a suitable place to develop their activity, opening an office there in 2013.

The evolution in the number of people hired has been very progressive. The increase in size also has drawbacks that affect the projects you can take on. One of your biggest problems is quality human resources because there are not many people willing to get involved in projects in other countries. They are mainly fed by engineers from the UMA.

In Malaga they have 60 engineers. They have technical staff at all three sites and work as a team to develop the different projects.

NOTE

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

Motivations for Growth Concept for Growth

On the one hand, doing projects outside Malaga. On the other hand, the fact that projects have been coming up and they were not been able to say no to them, even though they would find it very practical to have fewer engineers who were better utilised.

Growth has been organic, although their weakness is that these are complex projects in which the client has them tied up for a long period of time. They have planned for growth as much as possible, but for this they have encountered the aforementioned problem of finding the right people.

Growth Strategies

Diversifying services and geographics has been its main strategy, as well as the search for international clients.

Although they have generally been organised, they have sometimes encountered projects that have forced them to grow in a haphazard manner.

Growth has been financed through banks and internal financing, but they still lack instruments that give them agility on a day-to-day basis.

The strategy has been sustainable, but its business model implies having a lot of money on the street and that is a risk.

Transformation for Growth

“When you grow in staff, the problems grow, each person is a source of requests, and it is necessary to make periodic evaluations of their performance” says Gerardo. Communication is also something that has been a challenge for staff as they have grown, creating a lot of diversification. There is a need for training in personnel management. It is essential, and they often do not know how to approach and optimise it.

They do not have staff trained in psychological testing to diagnose the members of a team to find the place where they are most useful. This is very important to prevent people from burning out.

Customer management is also difficult, the demands are higher.

Challenges to Growth

Finding the right people has been a challenge. The team has to feel like they identify with the project. Shorter project spans do not let people identify with them. Young and inexperienced engineers who tire quickly have also been challenging.

For them, the search for funding has not been a challenge as they have not relied on internal investment due to a lack of knowledge of how it works. They have not needed it, but it would have given them peace of mind.

They have always worked with three types of private clients:

Type 1: investment funds or listed companies

Type 2: photovoltaic, wind power developers, medium-sized construction companies (turnover hundreds of millions of euros)

Type 3: large internationalised architectural firms

There are culture clashes when working with people from other countries.

“

Diversifying services and geographically has been its main strategy, as well as the search for international clients.

”

Most important Needs

There is a need for qualified and enthusiastic staff, something the university can help a lot with. They also need to create a human resources area to manage staff, conduct performance evaluations and search for candidates.

They have not done well with external human resources search companies.

Importance of the Leader

For the company, the leader's ability to attract customers and his vision for the company stand out as fundamental.

The leaders in Lynka have a small but close team to manage the company, they are very committed and hard-working.

Knowing how to delegate is complicated and they are working on it. The CEO considers that he is not very good at it, and developing processes to perform this task is very complicated. He thinks he is not much of an engineer in the sense that he relies a lot on his feelings about the people he works with.

“

Finding the right people has been a challenge. The team has to feel identified with the project. Speed makes projects last less and less time and people do not identify with them.

”

Training Needs

Training needs arising from the adaptation of staff to the technical projects already underway; building an office is not the same as building a hospital, thus requiring a different training.

Cross-cutting courses, for example communication courses related to digitisation, are some of their main needs. Internal training has a lot to do with the progress of the projects.

Regarding digitalisation, the way of working has changed and not everybody has adapted well. It would be interesting to have something to facilitate this adaptation. Besides that, it is necessary to have training in communication, creativity and time management.

Key Factors for Growth

There is a necessity to continue moving forward. You must also have a desire and an illusion, which you sometimes rethink when you encounter problems.

The vision at the time of having taken the plunge to have international clients when the situation in the country was complicated.

Partners

They have not been close to other SMEs or clusters, they have managed on their own. Now they are considering collaborating to incorporate things like artificial intelligence or the internet of things. They have sometimes formed joint ventures to develop projects..

Cooperation with Universities

They have recently started to explore options for, for example, incorporating professors in projects. They have had some OTRI contracts, but they are very expensive.

The main barrier is speed, as the university and the company maintain very different paces. There is also a problem of differences in the state of the art, meaning that there are services that the UMA offers that are not up to date in price.

Support Experiences

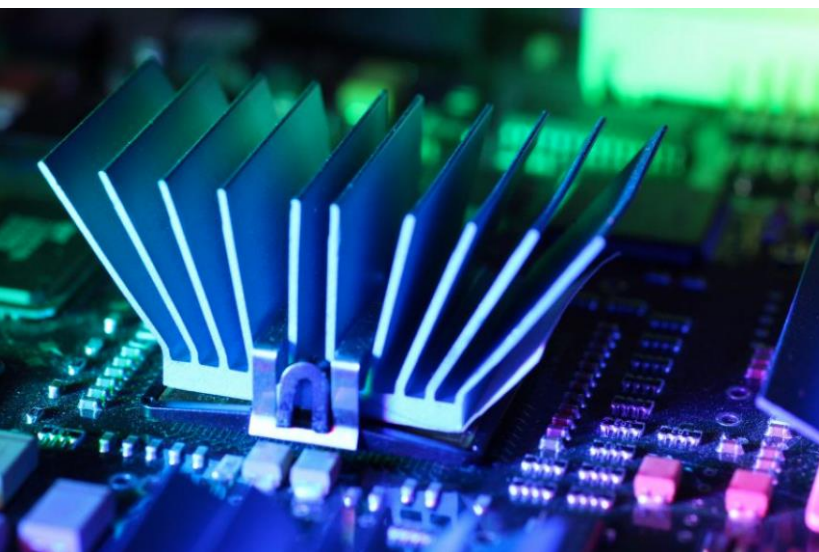
They left the Andalusian Centre for Entrepreneurs and then moved to BIC Euronova (Incubator of the Andalusian Technology Park, PTA). Some BIC technicians gave them support at the beginning, but once they left, they received no help from anyone.

Awards and Recognitions:

Young Enterprise Award at the X Telecommunications Night, in 2012

Pablo Enciso & Juan García

SME's CEO and CTO/CPO respectively
Predictive



COUNTRY

Spain

CONTACT

<https://www.predictiva.io/contact>

DATE OF INTERVIEW

11.05.2021

METHOD

On-site interview

LENGTH

60 Minutes

INTERVIEWED BY

Clara Plata

The company was created in 2016 and has experienced two very different periods. It was borne with the idea of targeting a very specific market segment: the application of artificial intelligence (AI) to a business area. At first this approach was made from a consulting area, but following a market exploration, in 2018 they decided to focus on the automation of call centres in Spanish-speaking countries. This changed the company's orientation from offering consulting services to focusing on a product, which resulted in the need to seek funding to enable them to build the right team.

In 2019 they closed a financing round with two investors and at the same time they were awarded the European SME instrument call, which provided them with sufficient funds to make important company-level changes. Thus, they were able to nurture the team (5 at the

beginning) with more experienced people, gradually growing to the current 25. Until the financing round, the company was supported by its own funds.

The product at that time was very basic and monolithic, and they needed to make it scalable and adaptable to different customers. This process began in July 2019 and developed over the following months. Juan García joined the management team as CTO&CPO, as well as other people in the areas of marketing (CMO), operations (COO) and sales (CCO). In this way, different teams were created that did have the necessary skills to develop the current product. Currently, the company's CEO remains the majority shareholder.

NOTE

Motivations for Growth Concept for Growth

The main motivations were the economic motivation to set up the company, creating a company culture with values, developing our product to a global conversational intelligence platform for the market, and making our software able to respond quickly to be competitive in a fast-moving world.

The key points are speed of business acquisition, speed of product launch, and successive agile iterations to verify market fit.

The company moves in a software development environment which is not easy to protect, thus the only defence they have is to go fast, so speed is of the essence. Since they also have investors to answer to, speed becomes essential to be able to respond to shareholder demands.

Growth Strategies

In 2018, the idea of "UPBE" was born, with which the company strategically focused on product development by abandoning consultancy services. With this, the search for funding began and ended successfully in summer of 2019 with the entry of grants and investors. This was the factor that triggered the growth of the company, both at a human level and at a business level, going from a team of 5 people to a multidisciplinary (technical/business) team of 25.

The strategy was to change the business model from service to product. Funding, as mentioned above, has been obtained through investors and the SME instrument. They have also received support from ENISA (Public Investment Funds) and CDTI

(Centre for the Development of Industrial Technology). So far, growth has been sustainable. They are now waiting to close another round of investment to give another boost to the company's growth. The transformations were to be undertaken consist of quintupling the size of the staff (now 25 in total) with five times the original staff's experience (15 years on average); the renewal of many technical profiles; the creation of an executive team; the incorporation of transversal departments such as marketing, human resources, etc.; and the creation of a Board of Directors thanks to the relationship with investors. A relocation to the Parque Tecnológico de Andalucía (PTA) was also needed. The company started in Marbella and decided to move to the PTA because it is an entrepreneurial ecosystem that makes it easier to find the human resources they need as well as to develop a link with the UMA.

Challenges to Growth

The main challenges were related to personnel management (Junior vs Senior Team). It was also necessary to create a more professional team than the one they had, bringing with it the challenges of bringing in someone new. They also had challenges regarding the talent recruitment, since Marbella could not offer them the human resources they needed to grow. Finally, they also struggled to obtain the funds they needed.

Key Factors for Growth

The key factors were procuring financial resources, acquiring the appropriate staff, and identifying a market opportunity at the right time. Technology is now at the point where it is able to solve the problems they are trying to address; therefore, they needed a global vision of their product from the beginning

“

The company moves in a software development environment which is not easy to protect, thus the only defence they have is to go fast, so speed is the essence.

”

Most important Needs Importance of the Lead

Their main needs consist of access to finance and finding suitable profiles for the defined roles. Many of these profiles come from existing networks rather than from the university because they need senior profiles. Besides, they need an adequate location to secure the necessary space and personnel resources.

The CEO's main role has been to find the funds and create a good team to cover everything that is needed.

Part of a CEO's responsibility is to meet the above needs with the right executive team. Such a team is already in place for Predictive.

CTO&CPO professional networks have allowed them to find the people who are now part of the technical team. Knowledge of the call centre environment has also been obtained by hiring people with a lot of experience in the different fields (CCO & COO). It is more costly, but very effective in achieving quality and efficiency for the company.

“

The biggest challenge for Bioazul is staff management, which is very important and exhausting, so they would prefer to have a smaller team.

”

Training Needs

Currently, they are in need of in-house workshops for senior staff on very specific topics such as machine learning, NLP, and software development, among others. Although they have opted for a more senior team, they are reviewing training needs and so far, they have only conducted in-house training.



Partners

In their first years, they had no partnerships with any entity. The first three years they survived thanks to their own resources and then investors helped them to grow. They resisted partnerships because they did not want to create links that could condition their future development at a time when they were still deciding what to focus the company on.

Cooperation with Universities

They have not collaborated with universities until now. One of the reasons for moving to the PTA was to establish links with other PTA companies and the University of Malaga (UMA). Now, it makes more sense for them to start having this kind of relationship because they have a clearer business objective, which is why they have come to this environment. They are starting to talk to university professors to explore partnership possibilities.

Some of the staff have been in companies that have had such relationships. Their opinion on collaboration with universities based on this previous experience is:

- Negative: Universities are very slow and people are not fully dedicated. The objectives are different, as universities tend to prefer publishing to patenting.
- Positive: Universities have a lot of know-how that can be put to good use if you get the right people, as long as these things are not in the critical path of business projects.

Support Experiences

SME Instrument Phase 2 (H2020), Enisa, CDTI

Swaanlab Investments, Sabadell and CDTI

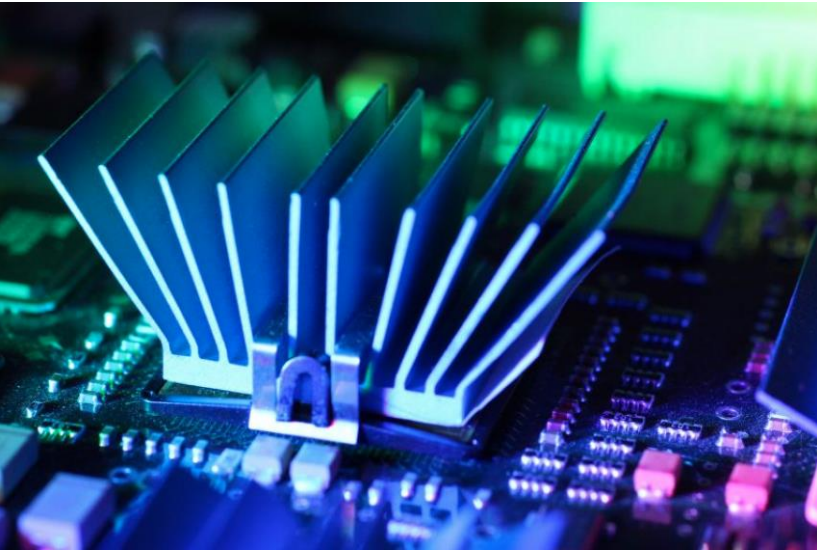
The PTA is helping them now, has made it easier for them to get the spaces they have now and is providing them with marketing help and information on useful issues.

Awards and Recognitions:

Entrepreneur XXI Award, best startup 2019 Spain/Portugal (awarded by Caixabank and Enisa)

Ezequiel Navarro

SME's CEO
Premo



COUNTRY

Spain

CONTACT

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DATE OF INTERVIEW

01.06.2021

METHOD

On-line interview

LENGTH

80 Minutes

INTERVIEWED BY

Clara Plata

The company was founded in 1962 in Barcelona, during the last period of the Spanish dictatorship, when it grew thanks to foreign investment.

It was during this period that consumer electronics were deployed and Premo was set up to manufacture components for televisions and radios as a subsidiary of a television manufacturing company.

Some companies closed soon after when the market was opened to foreign companies because they were not competitive, but Premo decided to diversify and manufacture components for other sectors (telecommunications, industrial and power electronics, electro-medicine, etc.).

In the 1990s they entered the automotive world, developing components such as antennas, remote keyless car openers, and electric car applications, among others.

Premo was founded as a family business. In the 1970s, two shareholders joined the

company and in 2007 the current management bought it. From that moment on, globalisation, internationalisation and innovation were given much greater importance. Two large funds, one English and one Swiss, led by Minerva Capital, also joined the company.

When the company was bought in 2007, it was growing steadily. Within six months the Lehman Brothers financial crisis hit, resulting in a 52% drop in sales in less than a year. They had to reduce the workforce by almost 400 people and were hit by huge financial losses. They made a change in the production model and kept only the Malaga factory, taking the rest of the production to countries where the cost of production was lower. They also strengthened different aspects of the company and incorporated international funds. This allowed them to recover, and they have now more than tripled the size of the company, thanks to innovation and internationalisation.

NOTE

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

From then on, a new phase began, with Swiss funds leaving in 2018 and English funds leaving in 2019, with a new fund from the Kingdom of Bahrain joining. Since then, there has been an evolution in which executives have been gradually investing and becoming more involved.

They export 98.5% of what they produce, mainly to Asia (China, South Korea, Vietnam, Taiwan and Malaysia), Europe (Germany, France, Eastern European countries), the United States, and Mexico.

They work for all automotive suppliers, such as Continental. They also work for the vehicle manufacturers themselves, such as Hyundai, Kia, BYD or Tesla.

In the virtual reality sector, they are developing technologies for the five largest companies in the world. In the Smart Green application sectors, Iberdrola uses its components.

In Spain, they have their own headquarters in Barcelona and Malaga. In Malaga, the company has been headquartered since

Growth Strategies

The growth strategy has been based on three factors: innovation, competitiveness and internationalisation.

Competitiveness: Innovation factors supported by powerful B2B digital marketing.

Internationalisation: They have been importing since their beginnings; they have been in China for 21 years with two plants, in Tangier since 2005, since 2008 in Grenoble, since 2010 in India, since 2014 in Korea, since 2016 in Vietnam, since 2017 in the USA, and since 2018 in Germany. They have always had very technical local staff and R&D teams close to the customer. They manufacture in the most competitive places in the world (China, Vietnam, Morocco) with a very high level of automation (robots and cobots), which makes them doubly competitive in terms of productivity and labour costs. Their gross margins are double those of their competitors and they have a very solid financial structure.

For them, a key to growth is that they design their own processes and their own machinery, which allows them to get three times the value of their investment.

Motivations for Growth

At the beginning, what they did was pivot

“If there is no motivation, the company dies. If you don't fight to grow, the rest of the companies pass you by” they constantly say and that is why they aspire to grow continuously in order to be globally competitive. “The digital world is very fast; if you don't grow, you're not going anywhere because you're not competitive”.

2010. Malaga is where the business process planning is carried out, where the general management of operations takes place, houses the general manager of business development, oversees exports, and supports the business expansion management, as well as being where innovation development is located.

Since the incorporation of the current management in 2007, the Malaga headquarters have grown from around 25 engineers to almost 200 and from having 2 patents to more than 130. They apply for a world patent every month and are world leaders in some of the components they produce in terms of production and turnover. The key to their growth is innovation.

For them, growth is increasing the value of the company and they value it as a multiple (of about 10) of EBITDA minus net financial debt. Selling more without earning more does not make sense. Selling more but taking on much more debt does not make sense either.

from the television and radio sector to other more profitable sectors. Their know-how is based on the use of electromagnetism, which can be applied to many different things. They have always had the ability to find emerging sectors, analyse what they can contribute from the company and capture an important market share when it is small and then let it go.

The internationalisation model is also very important, as it gives them access to other ecosystems that go at other rhythms that give them access to emerging technologies. They follow the system of the Catholic Monarchs: they work first with discoverers, then with conquerors and then they send friars and colonisers and finally emancipators.

They have needed financing of all kinds to grow. Public funds for industrial development and R&D&I (regional, national and international) and private funds (structured financing with bank syndicates). This allows them to always have liquidity available.

They emphasize that the company's growth strategy has always been sustainable.

Transformation for Growth

The interviewee refers to Harvard professor Larry E. Greiner's paper "Evolution and revolution as organisations grow", where he analyses that all companies that evolve and grow have crises that they must overcome in order to survive. These are organisational model crises, management model crises, and financing crises, among others, and each of these is resolved in a certain way.

When companies are borne, they are small and versatile, everybody does everything and nobody is specialised. But there comes a time when this is a barrier to growth due to a lack of specialisation. From this point onwards, the company is "ordered", and this brings about another phase of growth.

This phase also has a limit derived from the capacity of the manager and then it is necessary to make a change in the management and to create a management team among other structures, growing then thanks to coordination.

The following growth models are based on the creation of ecosystems with other companies and networked entities, which allows you to grow by building on the strengths of others and therefore having the opportunity to involve more and more projects. This is the phase they are in right now. They collaborate with other

They would like to grow more through acquisitions. Growing organically is complicated, but they are working on it through Industry 4.0 and robotisation. They want to use robots to increase the size of the company without increasing the number of workers. They want to keep the people they have and make them more specialised. For this, they rely on ESADE to train the company's top 20 managers and on MIT to train their best engineers in Industry 4.0 and Smart manufacturing.

companies, technology centres, universities and the Parque Tecnológico de Andalucía (PTA) itself, where they are located. In fact, he is currently the president of the PTA entrepreneurs' club and is a member of the executive committee of AMETIC, its employers' association.

Due to previous, it has been essential to change the organisation in order to grow. One of the main changes came when they moved their headquarters from Barcelona to Malaga and when they expanded internationally. The current management team is spread across different countries around the world, as they want the best people wherever they are. They therefore have a very diverse and complete team, although it is also more difficult to manage.

For example, the South Korean R&D director is a Malaga native who lives in South Korea and who was recruited through the "Bridge with Korea" programme run by the University of Malaga.

They also teach at many universities and business centres, which has helped them to attract quality human resources. There are many projects in which they have bright students to incorporate them into their team.

Every year, they grow heavily in training their people and innovation, the latter in both processes and products. Even now they need to sell more with higher margins and create differentiation through innovation, internationalisation, multiculturalism and cost competitiveness.

A sharp strategic eye for identifying promising new markets from a few key people. Identifying the competitive arena has been and still is the mission of management, as well as the strategic part of marketing. It is so important that it cannot be delegated to the marketing department. Defining who the company is going to compete with, what its value proposition is going to be and who the customers are going to be are key strategic aspects that have not ever been delegated.

“

If there is no motivation, the company dies. If you don't fight to grow, the rest of the companies pass you by

”

Partners

They permanently cooperate with other SMEs, Clusters and Universities and they even have an ecosystem director who is one of the most senior and highest paid people in the company. He is dedicated to fostering collaborations and looking for opportunities with entities, companies, universities, technology centres and clients.

The positives outweigh the negative points with this regard. Sometimes they go alone if they need speed, but in general being accompanied means going further, although it may mean going slower.

Importance of Leadership

For them, a leader has to be able to avoid becoming self-absorbed and falling into thinking that he or she is the best.

“You have to be constantly looking outside to identify alliances, threats, innovations in other sectors, lessons to learn... The one who has a wide network of partners to rely on and be inspired by, is

the one who can attract positive things for his organisation” they constantly say. Not being afraid to make mistakes and encouraging others to take risks in order to learn from them is very important for the company's leaders; this helps them to encounter failures quickly and cheaply in order to learn and improve.

Needs for Growth

Their needs have always been there: more and better people, talent and innovation, better products and better integrated customer value propositions.

They also have operational needs: more land, more factories, more machines, more people and more financing.

The limiting factor has always been talent. They invest twice as much as other companies in R&D (between 8% and 10%). If they could, they would invest more, because what generates value is having well-trained, well-motivated people involved in the growth process.

They are constantly thinking about who is their nightmare competitor (killer competitor) and once they have it well defined (for each country, market...), they become that competitor to take away the sleep of the others.

Cooperation with Universities

They have many collaborations with different universities: They are going to sign a Premo chair with the University of Malaga, they have a chair with the Centre for Industrial Studies of the Polytechnic of Madrid; they have developed collaboration agreements with the Faculty of Physics of the University of Barcelona, with the University of Grenoble, with the UPCE, with the University of Da Nang (Vietnam); they are working with the Fraunhofer Institute in Germany; they have developed collaborative projects with the technology centre of the University of Navarra in San Sebastian (Tecnum); and they maintained collaborations at the level of chair, departments and OTRI with many universities.

They are now working on a deeper collaboration through the Innovalia centre (Ricardo Valle Institute) that they are promoting in Malaga so that companies and the university share their technological infrastructures in an open and permanent way, so that their laboratories can be used by university and doctoral students so that these students get real training on what is happening in the business world while they finish their degree. They expect it to be particularly useful when there is dual training. Right now, they find a problem because students leave the degree with a very academic background and without knowing how companies work or the practical application of the theory they

Training Needs

Training for them is continuous, they use learning by doing as the most effective method. They consider that the best way to train for growth is to experiment in growing companies without fear of the unknown and with infinite curiosity.

The CEO says that he has always trained himself for things after facing the challenges. The fact that he has faced those challenges in advance has made him able to take a lot more of the trainings he did afterwards. He believes that it is necessary that all students experience the feeling that they have no idea, in order to learn better. He also recommends that Bachelor's students should do Master's degrees after they have been working for a couple of years in a company, not just after finishing their degree.

Support for Growth

Mainly, the only support they have ever received has been economic contributions that have come mainly from public sources. They have been intensive users of regional incentives; they were the first company in the PTA (file number 2 of the park), for which they were pioneers and received regional incentives (IDEA Agency). They are also intensive users of the Centre for the Development of Industrial Technology (CDTI). They also have two European projects at the moment purely for innovation.

Awards and Recognitions:

For a couple of years they have been the company that has created the most jobs in Andalusia.

Extenda awarded them (Alas 2016 award) for being the most international company in Andalusia

The Clúster de la Industria de Automoción de Cataluña (CIAC) gave them in 2018 the CIAC award for the "Best Innovation Strategy"

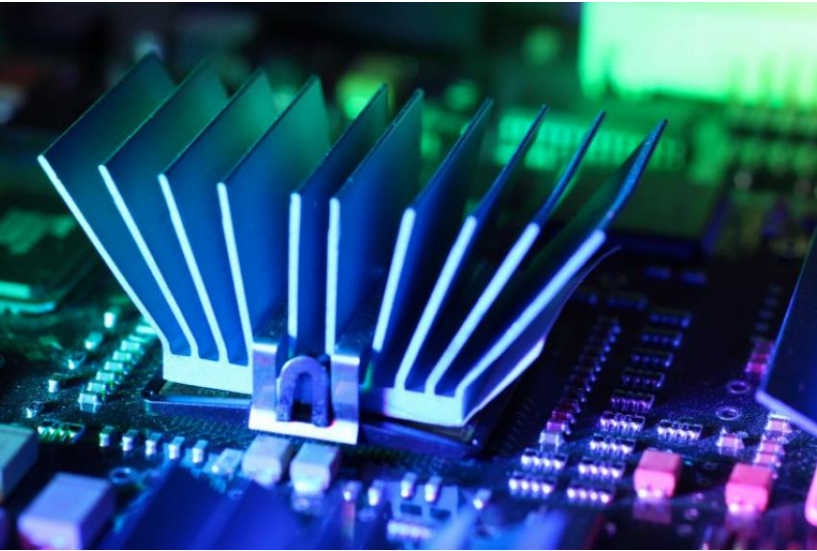
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Their needs have always been there: more and better people, talent and innovation, better products and better integrated customer value propositions.

”

Emilio López Zapata

SME's CEO
Tedial



COUNTRY
Spain

CONTACT
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DATE OF INTERVIEW
26.05.2021

METHOD
Face-to-face interview

LENGTH
90 Minutes

INTERVIEWED BY
Clara Plata

Tedial was created in 2001 by a group of UMA (University of Malaga) professors from the computer architecture department. This group already had a long track record in research contracts thanks to which they acquired a great deal of experience in the field of the transition from analogue to digital television throughout the second half of the 1990s. Based on this experience, they identified a very strong market demand that gave rise to the company. Specifically, after analysing the needs arising from the transition from analogue to digital television, they saw that the archiving of digital content was going to be a necessity and that they had the necessary capabilities to offer a solution to this problem. For this reason, they applied for a grant from the Neotec call of the CDTI (Centro para el Desarrollo Tecnológico Industrial) with which they obtained €300,000 that allowed them to create the company. The first 13 engineers hired originally worked in the department, now there are 80.

From the very beginning it was clear to them that for the company to grow, it needed to target markets outside Spain from the outset. A specialised SME needs an international market in order not to exhaust its local growth. In the summer of 2003 (two and a half years after its creation) they already had their first international sale. Currently 80% of their clients are from outside Spain.

The company is known in the market as a process automation company in the audiovisual world (film and television). In 2005 they came to Televisa. At the time, Televisa had 250 people setting up 4 television channels, whereas today, thanks to the process automation provided by Tedial, this same company has 60 people setting up 28 television channels.

Several tools are needed for automation: archive systems, systems for managing the movement of materials in the infrastructure, and the integration tool. All are automatic, but audio-visual production requires creative people who are integrated with the infrastructure.

Over the last 20 years, they have been developing improved versions of their product and are now on their sixth version. Software technology has changed a lot, television and cinema have changed a lot, and with them have brought several associated problems. The problem in 2001 was the transition from videotape to video file. The HD format complicated things because of the space/bandwidth requirements involved, and now we are onto ultra-HD, where the volume of data involved is even greater and more difficult to handle. For example, Pokemon is one of their clients. Each episode is versioned for multiple languages and formats of video, audio (stereo and Dolby in 28 languages) and subtitles in more than 40 languages, so each episode requires a huge volume of data.

NOTE

Understanding of Growth

For Tedral, COVID-19 has accelerated the remote production process, which is solved with highly distributed cloud technologies. In January next year, they will launch a new generation of software on which they have been working for four years. Based on microservices, this software is also valid for any cloud. However, the installations that their customers already have must continue to be used, so they have developed a hybrid system that allows a business model based on payment for the use of services. Instead of buying permanent licences, customers pay only for the licences they need, so there are more affordable prices that open the market to customers with lower economic scopes.

It is very important to have the ability to see where things are going. This is something that Emilio López Zapata, the current CEO of Tedral, has found useful both for his research and for the company. For him, the Parque Tecnológico de Andalucía (PTA) is a very useful ecosystem for getting to know the markets related to the ICT sector. Working in isolation is a bad idea; mobility in the business environment is essential.

The seed of the company was Neotec, but they have had a line of funding thanks mainly to national CDTI projects, Andalusian Regional Government and various international projects (mainly Eurostar). These funds have been used to accelerate R&D, but growth has been financed with internal own funds.

Next year, they will change their business model and create a network of technology partners. Until now, what they had were monolithic products, while from next year they are going to offer a fragmented product, which will give the option, as has been mentioned, of making it attractive to smaller companies as well. They have not done any marketing on this new product, but have instead made small private presentations to large companies and integrators in order to prevent some large company with more marketing power from engaging them with their products. They don't want to give ideas to other companies to copy before they bring it to market. With the new functionality, they are going to open up the market to Tier 2 and 3, whereas up to now they have been exclusively supplying Tier 1.

Motivations for Growth Concept for Growth

The company's CEO is a researcher who has had a very successful career and a vocation for transfer from the very beginning. It is intrinsic to his way of seeing things and this has been reflected in the development and focus of the company.

Tedral has 3 basic pillars: the R&D team that makes the products (a stable team of 35 people); the solutions area, who are the ones who make the projects with Tedral products; and the support area, for which they have 15 people (the rest are solutions).

They are growing most in solutions, although of course they have grown in all departments over time. For them, growth has been organic.

Growth Strategies

Growth has been based on project achievement and the anticipation of future projects. It has been related to the development of new product versions and the development of new products. At all times they have been well prepared for growth and are now hiring people in anticipation of the changes coming next year.

In order to grow, they have mainly used their own funds. "A company has to live of its sales and public funding serves to boost R&D, but it should not be fundamental to their survival", is their mantra. Their growth strategy has always been sustainable.

Key Factors for Growth

For them, it is key to be strongly specialised in a sector (media and entertainment) with clear needs. Tedral is a very specialised company, internationally recognised for being very good at what they do. Otherwise, nobody understands how such a small SME could cover such a big market. Therefore, it is very important to have high quality standards in what is offered. Besides that, it has also been very important to have enthusiasm and ideas, to work hard and to be lucky.

Importance of the Leader

For Tedral, it is essential for their leaders to be entrepreneurs, to believe in the company, to have a vision and to be able to put the vision into practice. They also consider it necessary to surround themselves with a quality team and to be very attentive to technological changes and market needs.

Transformation for Growth

The growth of support structures for the core business has kept pace with the increase in staff and income.

Challenges to Growth

The company could have grown further if it had been opened up to investors, but they preferred not to do so in order not to lose control. They did not want to lose motivation and preferred to be able to control the future of the company.

Throughout the life of the company, there have been two major milestones that have been challenges the company has had to face in order to survive:

The first critical moment happened in 2011 when the company decided to switch 100%

to web applications. They had everything in desktop applications and made the decision to move to web in Java. This meant a change of culture from Microsoft to Java that could have resulted in the company's bankruptcy because they saw that the engineers were not easy to reconvert.

The second major change will come next year when it changes its business model (from CAPEX to OPEX) with the introduction of distributed services.

“

A company has to live of its sales and public funding serves to boost R&D, but it should not be fundamental to their survival

”

Partners

They have collaborated with other SMEs in the development of large projects to achieve the functionalities that they cannot provide since they are integrators, but television and cinema have many aspects and cannot cover them all. It should also be mentioned that they do not participate in clusters.

Cooperation with Universities

There is a permanent collaboration with the UMA in terms of innovation and participation in research projects. It also provides human resources, although it is not an exclusive source of them.

“

For Tedral, it is essential in their leaders to be a entrepreneurs, to believe in it, to have a vision and to be able to put it into practice.”

”

Training Needs

The training needs have been permanent, meaning that they are always doing training. They continue to have trainings, and currently they have cloud deployment technologies as a priority area. These are generally training needs in very specialised areas.

As a result of digitalisation, lifelong learning is essential and they are constantly updating themselves.



Awards and Recognitions:

Game Changer Award, IABM (International Association of Broadcasting Manufacturer) in the years 2015, 2016 and 2017

In 2011 he received the SCIE National Computer Science Award

IBC Best Product of the Show Award in 2018 and 2020



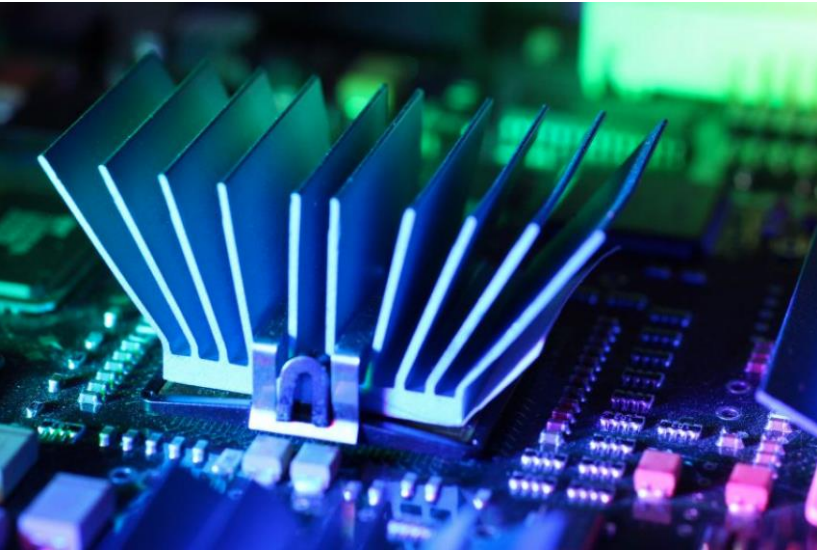
“

Digitalisation has not been a problem for their company, as most of them are telecommunications or computer engineers. For them, training in this area is a natural and continuous process.

”

Pablo Tapia

SME's CEO
Tupl



The idea for Tupl was created in 2013 when Pablo Tapia, the current CEO, was living in the US and it materialised in 2014 with the creation of the company. Pablo saw that telecommunications networks were going to be very difficult to manage and that it was going to be necessary to use automation processes based on Big Data and Artificial Intelligence (AI) to do so. He identified an opportunity in a problem that was going to arise and designed a solution in the form of a platform. This platform is a digitisation tool that helps to automate data management and was originally applied to the field of telecommunications, although other areas where its application is also possible have also been seen.

Before creating Tupl, Pablo worked for 15 years in different countries around the world. He looked for a team of people to partner with for creating the company, people with similar technical experience to him and with whom he had previously worked in a start-up.

Its first step was to seek funding for the creation of the first prototype of the product, which they managed to obtain in 2014. Three years later, the company achieved the first sale of the platform. Since then, they have managed to consolidate customers worldwide, mainly in the US and Japan. They have made rounds of investment to be able to grow and have reinvested the income obtained to continue growing. It was not until 2020 that they reached a level of economic stability that allowed

COUNTRY
Spain

CONTACT
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DATE OF INTERVIEW
01.06.2021

METHOD
Online interview

LENGTH
60 Minutes

INTERVIEWED BY
Clara Plata

them to generate profits.

The company's headquarters are in Seattle (USA), but R&D is carried out in Malaga (Spain), where the main headquarters are now located. They also have offices in Japan.

Their investors are mainly American, but also have Spanish investors. The first round was 90% American, the second European capital and the last one mainly Spanish. In general, it is easier to find investors outside of Spain.

In terms of staff, they started with six and are now 60 people. Last year, they started a diversification strategy and have started a digital agriculture project. They are now exploring other options where the platform they have developed can be useful.

Motivation for Growth

Their main motivation has been to make the company something very powerful; they want to create something that transforms society. They argue that their core product, TuplOS, is very versatile and can be applied to a multitude of areas, from telecommunications to digital health, therefore, they desire to be big and make a name for themselves. They were borne with the vision of becoming a global company.

Another major motivation is that investors are counting on this growth to happen, and finally, responding to customer demands.

NOTE

Concept for Growth

For Tupl, growth is about increasing the company's capacity to solve problems, which is intimately linked to achieving economic growth. Everything other growth, such as more customers or more staff, shall be at the service of that. The ideal is to achieve good economic growth without having to grow too much in terms of staff, in order to achieve very competitive margins.

As mentioned, in their case, growth has been supported by initial investment while growing organically. To diversify, they did need to acquire another company with expertise in the new domain they wanted to enter.

Currently, they are considering a new round of investment because it is a sector in which speed is key if you want to be competitive and for this, the financial injection is essential.

Growth Strategies

So far, their growth has been based on two components: the capture of new customers and the creation of new products, which allow them to increase the volume of business with each customer.

They made an original plan that they have had to adapt to the circumstances, thus it has not been easy to plan beyond 9 months. As for the needs arising from growth, they have had to foresee the

consequences. They have never increased the workforce abruptly so that the team remains well integrated, nor have they taken on clients without being sure that they can offer them what they need.

Their growth has been financed by investors and by reinvesting own profits. The strategy has been sustainable until they reached breakeven last year and is holding on.

Transformation for Growth

Almost every year they have gone through a different phase in the company; in the beginning, everyone did everything until they got their first client. When they got the first pilot and the first investment, they started to grow the team. The next phase came when the pilot turned into a strong sale and from there, they started to create different departments. The financial, legal, and personnel management are outsourced. HR has been divided among the members of the management team. They have had several ups and downs,

depending on things they have learned along the way and now they are quite stable. This year, they have created a marketing and HR department and expanded the sales department.

Because of the nature of their product and their customers, they initially gave more importance to product development than sales. For him, now is the time to start boosting sales, to which they are currently devoting their efforts.

Challenges for Growth

The first challenge has been, and still is, to sell. It is very difficult for them because their solutions are intended to be at the heart of companies. Their customers are very big companies, and it is very difficult to get their attention. Materializing sales for them is very complicated because they have to convince a lot of people within each of these big companies.

In the beginning, a big challenge was to find funding and getting investors to believe in them when they hadn't had any customers yet.

Finding the right people is also a challenge. There is a certain immaturity among engineers that makes them difficult to manage as a staff. In Spain it is something that consumes too much energy. The CEO thinks that the way things are taught at university is part of the problem, as they focus more on doing things in a purist way than on the business vision. He finds this condition more in younger engineers and those coming from computer science than those coming from telecommunications. His main source of HR are engineers from the University of Malaga (UMA). In general, they are very good, motivated and committed.

Success Factors

The first factor has been having the right vision, the right team and the right contacts to face each decisive stage. Then, it has worked on doing things right, since their growth has been driven by the satisfaction of customers who have come back for more.

Persistence was also very important in attracting and keeping customers. They had to spend time with them and focus the products they offered to solve their problems.



Times are very difficult, and without the right leader, the company would not have survived. Technical capacity and vision to identify a market need. This is important both at the beginning and during the life of the company, as it is necessary to adapt to the circumstances.



Needs for Growth

Their main need is access to financing sources.

They also need to find and train people. It takes time for their new recruits to become productive and the company has to play with timing.

Importance of the Leader

First, having a strong leader at the helm of the company is essential. "Times are very difficult, and without the right leader, the company would not have survived.

Second, having the appropriate technical capacity and vision to identify a market need. This is important both at the beginning and during the life of the company, as it is necessary to adapt to the circumstances", points the CEO.

Third, having the ability to persuade, transmit an idea, and motivate so that investors, the team, and clients believe in the company are very important for them. Fourth, knowing how to identify the right people to support you. It has been necessary for them to look for people who complement their knowledge and contribute to them.

In their case, the CEO also stresses that he has never had a problem getting into the mud and he does not desire to lose sight of what is going on at a low level; he has programmed part of what happens in the system and he is also very close to the customers. All of this allows him to understand what the priorities are.

Training Needs

They do a lot of internal training, for example in European projects, but with an important part of "learning by doing". They promote, for example, the participation of some of their employees in info days.

They do provide training in safety, languages, and new tools, among others. Many times the workers themselves propose courses they want to take.

Regarding digitalisation, they have small courses on social networks. They are setting up a CR and will do a course for those who know it to teach others how it works. They have not had any major training needs.

Partners

They have cooperated with other SMEs who have given them "psychological" support and with whom they have shared problems and solutions.

They also participate in several clusters, but they do not see them as useful, they have not received support from them in their growth.

At this stage, they are creating more important partnerships and projects with other local TechPark companies, which have the potential to be customers and in turn help to create new products.

Cooperation with Universities

They have also collaborated with the University of Washington in the beginning through a programme in which the university provided four students per year to develop a project. As a result, they have developed some prototypes and some of these students have stayed on to work for the company.

Now, they also collaborate with the University of Malaga. They have R&D projects and curricular and non-curricular fellows, as well as students from the Big Data master's degree programme. The scholarship programmes work very well, and most of the scholarship holders end up being hired.

Regarding the negative aspects, R&D projects do not work well. His impression is that the university seeks to publish and not to solve real problems. There are two worlds that do not have the same objectives and it is not practical enough to collaborate.

Training employees in a more practical way, more focused on the reality of the world of work, with more practical and less theoretical content is an opportunity for business-university cooperation. For them, this would help a lot to sustain growth because it would mean that the company would not waste time training new employees in this way. Things are being done, but there is still a long way to go. They think that university could offer training in various subjects to companies.

Support Experiences

They have received a lot of uninterested support from people. Networking has been very important because it generates an atmosphere of companionship that facilitates mentoring, for example.

The PTA and the UMA have also offered them support.

They don't think that all the subsidy programmes, especially from the "Junta", are working properly. It takes a lot of effort and this programmes are not designed for today's agile world, and in many cases by the time the money is received the investment has already been made. The subsidies are not at all useful for a start-up company but would be more beneficial for established companies.

Awards and Recognitions:

"Cool Vendor" by Gartner

Fierce Wireless, innovation award

Joan Núñez

CEO and Co-founder

COMET GLOBAL INNOVATION



COUNTY

Spain

CONTACT

UAH

DATE OF INTERVIEW

30.06.2021

METHOD

Off-Line

LENGTH

60 Minutes

METHOD

Fernando Perales

Joan Núñez is CEO and co-founder of COMET GLOBAL INNOVATION, an R&D consultancy founded in 2014, specialized in engineering-related projects. They focus on innovation project management, development and technical studies, as well as business development.

His work experience for some years focused on the sale of services and equipment in the field of energy, especially renewables and managing teams of commercial technicians. Eleven years ago, he started a new stage in the R&D&I area, especially in actions to promote technology transfer.

COMET supports companies in the generation and development of business, with extensive experience and knowledge of tools such as technological innovation, process improvement, opportunities, and exploration of strategies and synergies.

NOTE

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

Understanding of Growth

COMET's growth is fully aligned with the growth of the workforce, as we have been attracting talent specialized in different areas to become a benchmark in our sector for the quality of our work, which translates into improving the health of the companies and institutions with whom we interact.

In this way, the most exclusive asset of our company is the human team that makes it up, which is the key to our growth. Therefore, we aim to continue incorporating professionals who add value to the company but ensuring that this growth is sustainable.

Engineering companies necessarily experience a different growth trajectory or path than other companies since an engineering company that neglects the quality of its human capital has practically no future or viability. In the words of Mr. Núñez: "I could not replace talent with more modern machinery or increase its assets with acquisitions of furniture or real estate. It may indeed be interesting to acquire these assets, but not as operations of interest within its range activity".

Motivations and Challenges for Growth

Our primary motivations for growth are to respond to the demands of our customers today, taking advantage of the current favorable situation, to provide a solid financing base for med-term growth.

It should be noted that a difficulty in COMET's growth strategy, as in other companies focused on services, lies in uncertainty. Although this is common in any company, in ours too, it can be heightened by facing the need to hire people to do work that we are not sure will be carried out or that depends on the granting of financing. Therefore, we do try

to anticipate growth needs. This strategy can be sustainable, but it always involves a high risk, which must be assumed with a health cash flow.

Currently, in COMET growth results are directly in the growth of a quality skilled workforce. This is crucial to impact the quality of the services offered, which are increasingly professional and, of course, on revenues. Although not so much on profits, as the objective, at this time of expansion is growth in professional quality.

Key Success Factors and Needs

Finding the balance that allows the company to continue being sustainable is crucial for COMET. Offering solutions based on innovative formulas and assuming risks that other companies in our sector are not willing to take are critical success factors for the company's successful growth.

The primary needs for the growth of any SME are to continuously equip itself with the adequate human resources that allow it to remain at the forefront of its sector and, of course, to have the economic resources that would enable the necessary investments in this regard. In this way,

training, modernization, updating strategies, etc., can be adopted to maintain the highest quality of the company's product or service.

Companies need financing to be able to maintain themselves and grow, whether in human capital or in any other type of resource. But not all companies have access to adequate financing, so it is essential that administrations provide this financing to companies that need it. Training is essential, and this can be obtained through public or private programs, fully or partially financed by the administrations themselves.

“ *Collaborating with the university allows us to look at projects from a different perspective to the one usually taken as a reference in the business world.* ”



Business Leader Importance

Deeper knowledge about the market and the client needs, access to the required finance depending on the needs, talent acquisition, well-defined strategy and action plan definition are essential for a sustainable growth. All of these are competencies of a good business leader.

SMEs need business leaders who have a long-term strategic vision and the ability to motivate and lead the team. They need to be able to act as facilitators, to make things happen, so that the SME can consolidate and grow.


Training Needs

The training needs at the beginning were mainly to learn how to correctly use the existing tools and systems to operate in the R&D&I ecosystem and acquire a deep knowledge of public calls for proposals to obtain funding. These skills need to be continuously updated, therefore lifelong learning is a cornerstone for COMET.

In addition, the company is currently immersed in a new adaptation and improvement of processes and protocols, so the training needs are along these lines.

On the other hand, to achieve sustainable growth the company's staff needs to acquire skills in entrepreneurial mindset, access to capital and business model innovation (in that order). These skills will take COMET to the next level in the future and enable it to achieve sustainable growth.

Lifelong learning is a cornerstone for the company. Get updating to operate in the R+D+I ecosystem is crucial for us.





Past Experiences:

Collaborating with the university allows us to look at projects from a different perspective to the one usually taken as a reference in the business world. We collaborate, especially on research projects. In this type of project the university usually has an interest in the project's outcome. This interest transcends economic interest, as the priority is scientific progress. However, this does not necessarily have to be a negative thing for the company; on the contrary, it can be a good complement, an enriching vision of the objective pursued by the project.

University-SME collaboration and clusters make it possible to take advantage of the resources of all parties: on the one hand, facilities, equipment, highly qualified people, etc. On the other, a company that facilitates the introduction into the market from different perspectives of what could otherwise remain a great idea but with no return to society.

Manuel Ruiz Aldereguía

Co-Founder
In2AI



COUNTY

Spain

CONTACT

UAH

DATE OF INTERVIEW

30.06.2021

METHOD

Off-Line

LENGTH

50 Minutes

METHOD

Fernando Perales

Manuel Ruiz, consultant and Trainer in Digital Transformation - BlockChain - Industry 4.0 - AI, with the focus of expertise on the Operational Excellence. He has over 25 years of experience as entrepreneur and has been for 35 years contributing to the development/transformation of businesses to obtain competitive advantages and improvements.

He is currently CEO and co-founder of the In2AI, company focus on the applied algorithm development, NLP, AV and analytical services. The company was funded in 2019, motivated by market demands and technology offers. It is co-founded by 4 partners (3 still remain).



NOTE

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

Understanding of Growth

In his opinion, one of the most successful approaches for a new start up to growth is to closely collaborate with big companies. This enables the support to connect, attract and engage with targeted clients. For growth of companies like his, in addition to the top technological companies, growth can also be implemented with the collaboration with the big four consultancy firms such as: EY, Deloitte, KPMG and Accenture.

In relation to engineering companies and the exploitation of the data usage for new business models and service generation, it would be expected that the growth is

exponential rather than a more linear and organic as growth in other sectors. In this domain, the adequation and use to the standards enables the generation of robust and reliable services that generates the market traction in the early stages of the company. Then, the increase of the daily work and the scalability of the resources must support the next growth phases.

In parallel to the company growth the boarding team has to be transformed and specialized in different management related aspects such as: human resources, cash flow and change adaptation.

Motivations and Challenges for Growth

The main motivation for growth must be promoted by the team capacities, which will support all the changes the company will face. The complementary skills of the team provides the required reliability and trust for the challenges.

Challenges for growth are closely related to the company transformations, and they cover from financial aspects (short-medium and long coverage), human resources (technical and management skills) and technical resources (scalability).

Key Success Factors and Needs

In order to minimize the failure rate when growing there are several key aspects the board management team must cover. Those are:

1. Marketing
2. Sales
3. Team management

Dealing with the main needs the SMEs are facing when growing, access to financial resources to support the human resources is one of the main challenges. For this reason, the access to public funding to develop research and innovation projects represents a good alternative to the private financing.

“

The main motivation for growth must be promoted by the team capacities which will support all the changes the company will face.

”

Business Leader Importance

In general, there are two main aspects the business leaders must accomplish in order to sustain the company growth:

- Their ability to identify and seize opportunities, and
- Their ability to mobilize the network

The first one is related to the ability to allocate the required resources to the proper expansion project. It could be a new market entry and/or an additional

feature of the service for better customer satisfaction. The second aspect focuses on their capacity to active all the company value chain with the goal of business optimization. It may cover from a new agreement with a reseller, a sale discount with the service (cloud) provider and the motivation of the technical team to avoid the team movement to other company.

Training Needs

As mentioned in former sections, during the growing period the SMEs have to update their skills and capacities to be adapted to the new company framework. These training needs are related to both technical and management aspects. The former are most related with scalability and generation of robustness in the service delivery when the number of clients increase. The latter is more focused on team management, ensuring that the tasks and services are developed according to the market needs.

As a result of the digitalization, both the companies and the clients need some kind of upskilling and reskilling. Clients need initial training about digital topics (such as AI) to know more about what can be achieved, and the company team requires additional training about change in business model and support in decision making.

In summary, there are two main specific training needs in SMEs to grow:

1. Access to capital
2. Business model innovation

Additional SME Growth Support

The most critical aspect for an SME to grow is related to the funding. In this sense, private sector (entrepreneurship) should be more proactively involve in the funding with the banks supporting the growth and short term cashflow.

At technology level, the digital services must be broader promoted for society sustainability and scalability.

“

As a result of the digitalization, both the companies and the clients need some kind of upskilling and reskilling. Clients need initial training about digital topics (AI) to know more about what can be achieved, and the company team requires additional training about change in business model and support in decision making.

”



Past Experiences:

In2AI has collaborated with universities in the past. In general, they represented good experiences and the projects were developed properly. It must be highlighted that collaboration with university has valuable knowledge transfer production into the private sector, which also promotes future innovations.

Lino González

Co-founder
In2AI



COUNTY

Spain

CONTACT

UAH

DATE OF INTERVIEW

24.06.2021

METHOD

Off-Line

LENGTH

60 Minutes

METHOD

Fernando Perales

I am Computer Engineer, training responsible and co-founder at In2AI. For more than ten years Lino has been leading schools in which he developed training and consultancy programmes in Big Data, Data Science, Business Intelligence, Artificial Intelligence, Deep Learning, IoT, Digital Transformation, Industry 4.0 and Blockchain.

He has more than 17 years of experience in defining and collaborating in training programs in Universities and Business Schools. He has also experience in start-up development by merging three complementary companies with the aim of reaching better market positioning. Mr. Gonzalez is also specialized in data analytics and artificial intelligence sectors.



NOTE

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Understanding of Growth

From my experience, I understand the business growth as a slow process, mainly due to the lack of finance, entrepreneurship support and low credibility by the final customers against large companies. In addition to that, there is low entrepreneurship culture in Spain, where the fear to fail and fast growing/benefits domain the sector.

I do prefer organic growth rather than fast growth and acquisition. In many cases, when a start-up starts a collaboration with a big player, they look for skilled human resources rather than supporting the start up projects, which generates the end of the small company.

For a better growth of engineering companies and access to the market, I prefer the agreement with large consultancy firms so they facilitate the access to the market and final clients.

From my personal experience on growth strategies, the SMEs implement product development to offer a very specialized product and service, which, in most of the cases, involves high costs. This strategy model needs periodic revision as well as access to public and private funds to support the human resources costs.

Although in most of the cases there is a well-defined medium range strategy, the daily cash flow is not considered sufficiently, which may motivate the company rupture.

Major transformations are generated by the need for a better management of the economic resources, like debt capacity and appeacement, and how this is related to the human resources (salaries and board structure).

Motivations and Challenges for Growth

As an entrepreneur, main motivation is the capacity of generating a new project while since beginning following your own culture and business philosophy. There is a strong internal motivation to develop something unique supporting self-growing.

Main challenges may be the following:

1. Cash flow management

2. Human resources (as the board committee cannot develop all the tasks and must delegate many technical tasks)
3. Generation of the company culture (which facilitate the responsibilities delegation and aligns work and service delivery methodology).

“ **Major transformations are generated by the need of a better management of the economic resources, like debt capacity and appeacement, and how this is related to the human resources (salaries and board structure).** ”

Key Success Factors and Needs

There are many and very diverse factors impacting a successful growth, those are:

- Agility
- Horizontal company structure
- Project passion
- Team support and training
- Technology investment
- Others

To Support the company growth the SME needs the following:

- Networking: to get both clients and human resources
- Access to finance
- Strategy definition
- Project planning, with high level of specialization and reliability

Business Leader Importance

Business leaders need to have a combination of several abilities, like honesty (against employees, partners and clients), communication skills (internal and external), planification, technology knowledge concerning the state of the art and competitors offer, organization and tasks delegation.

Training Needs

When growing there is a need to: (i) modify the working methodology, integrating new agile approaches; (ii) generate a common background in communication skills and office programmes enabling a better collaboration with clients and departments; (iii) planification and work structure (responsibilities and delegations).

There is also a lack in programming capabilities as well as analytical, cloud and new technologies like blockchain, IoT, 3D and so on.

It is quite complicated to implement training lessons about all the new technologies that are developed every day.

This is a sector that is changing very fast. In addition, there is a frequent opinion that training is something easy and fast to learn, which is not the case at all. For that reason, not all the profiles are adequate to all the technologies, and a good profile-technology match is needed.

When ranking the specific training needs for growth SMEs, this is my personal top 3:

1. Entrepreneurial mindset
2. Access to capital
3. Internationalisation, including awareness of opportunities on how to access finance and skilled workforce.

This is a sector that is changing very fast. In addition, there is a frequent opinion that training is something easy and fast to learn, which is not the case at all.

Past Experiences:

The easiest way to collaborate with other company is by having a common philosophy and working culture. I would collaborate with Universities in long term projects, as the main challenge with them is the different timing for project development.

In many cases, business leaders do not know the technical capabilities of the Universities. The most likely way to start a collaboration is by means of a public funded project

The main opportunity for collaboration between SMEs and Universities can be in the new talent generation. Students may have stages at company officies to complete their training and know in deep our needs. Some examples can be industrial doctorates, special leaves in companies,...

Additional SME growth support

It would be required to have some training in growth strategy by analysing success cases in your domain, if possible, showing strategies applied by similar size companies. Secondly, it is necessary to increase training in communication, focused in networking. Finally, promoting the public-private collaborations is also needed.

José-María Azcárate

SME's COO

Kolokium Blockchain Technologies



COUNTY

Spain

CONTACT

UAH

DATE OF INTERVIEW

30.09.2021

METHOD

Off-Line

LENGTH

45 Minutes

METHOD

Fernando Perales

José-María Azcárate is a computer scientist who has been involved in entrepreneurship and technology companies' foundation in the last twenty years.

He founded his first company in 2001, a consulting company specialized in SAP systems. They grew it between two partners until he left it in 2016, with more than 300 employees and offices in 5 countries.

After that, he co-founded a company specializing in big data and artificial intelligence; he sold this company in 2020 after a large company growth.

Currently, he is involved as a partner and advisor in a Blockchain start-up: Kolokium Blockchain Technologies. Kolokium was born in 2017 with the aim of offering services related to blockchain technologies and developing products that facilitate the implementation of these technologies.



NOTE

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

Understanding of Growth

Kolokium is focused on developing its own blockchain technologies with a core of experts and, in terms of growth, they are currently mainly focused on organic growth.

In the short term, they understand that the company growth is about attracting talent and making investment in training these resources. In Mr. Azcárate own words: "In a nutshell, I believe that growth of engineering small companies that work with really new technologies depend a lot on the talent and human team.

Additionally, they also must make a lot of effort in long and expensive commercial processes. Of course, this directly affects the growth patterns of these companies".

This type of growth vision may slow down the initial growth of the SME in the early stages, but it is important to have a solid foundation to later accelerate growth.

Motivations and Challenges for Growth

Mr. Azcárate is of the opinion that engineering SMEs are working very often with technologies in the frontier, and they need significant time to acquire new competences and knowledge. This can generate a "cash gap" that SMEs need to anticipate, and a good way to fill it is to seek funding from external investors, and/or grants to spend in new resources from the beginning.

The growth of a small engineering business is always about getting the word out. Industry needs to know the products and services of SMEs and how these can be an advantage. Therefore, selling is crucial to have a position in the market, but this is in technology companies a challenge, since they may stay at the "bleeding edge" and require significant effort to evangelize potential customers.

Key Success Factors and Needs

In accordance with the reasons set out above, when technology companies start to grow, he also think that additional to investment in recruiting, they always need middle managers and "non-directly-productive" functions (administration, finance...) and, of course, to grow to the next level they need to hire skilled salespersons.

He also added that cooperation is a key factor for the growth of SMEs. Based on his experience, the cooperation should take place in two ways: to raise finance, and to collaborate with other business in the same area of expertise. Universities play

an important role in meeting some of these needs. They can be a very good partner to work with in attracting funding, as they can access calls for proposals and grants to transfer knowledge and research to companies, and SMEs can participate in this collaborations to get the knowledge and the investment crucial at early stages. On the other hand, accessing to partnerships and networking groups of other countries (especially when SME's technologies are not widespread) can be a cornerstone to further growth and go international.

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The likely cash gap when an engineering SME starts to grow needs to be anticipated and funding mechanisms play a vital role here.

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Business Leader Importance

“Business leaders are a high percentage of a company’s future success, especially in the early stages of growth”, says Mr. Azcárate. From his experience, in technology companies is it often the case that leadership may entail both technical leadership and also business or more customer-oriented leadership. The former is fundamental to build trust in the

technical capacity of the company to execute projects or undertake product development. Bu the latter is critical to address the needs of expanding the customer or if applicable, user base that will provide the cash flow for growing the technical team.

Training Needs

In the specific case of Kolokium, Mr Azcárate believes that a key factor for its growth is to become an attractive company for the few blockchain experts in the market, and to get the right people the best training.

He successfully worked with universities in tailoring training on an ad-hoc basis. In his past experiences, the logistics of the training stand in the university hands (teachers and experts, classrooms, infrastructure...), while the recruitment of students and the preparation of the

syllabus is a shared task. These trainings, as well as other events organized by universities (hackathons and so on) end up being one of the main places to attract talent.

Regarding concrete training needs, Mr. Azacárate points out that, especially in engineering and technology SMEs, life-long learning is essential, and he prefers to focus on technical aspects training rather than other business skills.

Collaboration with universities is a winning bet for me. Among others, universities provide us with access to knowledge transfer calls that allow us to obtain much-needed funding and to access partnerships and contacts in other countries.



Other general remarks

In Mr. Azcárate opinion, at least in Spain, SME growth could be best supported making easier for SMEs the access to financing, tax advantages, access to public support (as low barriers to access public contracts and low barriers to access public incentives) as well as limitation of liability of partners.

In addition, regulations such as those of certain governments, lack of flexibility to allow entrepreneur to configure dynamically a team of employees, and this can end up becoming an obstacle to SME growth.

Dr. Miguel F. Cambas

General Secretary
CEOE CEPYME Guadalajara

CEOE CEPYME

COUNTY

Spain

CONTACT

UAH

DATE OF INTERVIEW

04.06.2021

METHOD

Off-Line

LENGTH

40 Minutes

METHOD

Fernando Perales

For many years Dr. Miguel Cambas works on business development around the Corredor del Henares region, mainly as business consultant for small, medium and large companies. He has also been involve in incubator management and being entrepreneur in a consultancy firm.

He has a very broad experience at private and public sector, with the focus on the promotion of entrepreneurship and industry at international level. He has been Secretary General of the Provincial Confederation of Entrepreneurs of Guadalajara Ceoe Cepyme. General Director of the European Center for Business and Innovation.

He is Honorary Professor at the University of Alcalá, Faculty of Economic and Business Sciences, Department of Financial Economics and Accounting, President of the Association of the Georgian Hispanic Chamber of Commerce, Deputy Managing Director at Hospital Ramón y Cajal, Madrid, and Managing Director at the Virgen de la Candelaria Hospital, Tenerife.



NOTE

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

Understanding of Growth

The SME growth has to be aligned with the market demand and the product development. It is a combination of market knowledge, technology development and entrepreneurs intuition about market needs and trends.

In the engineering sector, the service and product development for other companies (B2B) approach is more critical to support SME growth. In addition, the cost analysis is critical to determine improvement processes as well as pricing strategies. The most majority of companies are micro,

which are focused on covering local market needs. For that reason, they should not have defined a proper growing strategy. There is a lack of training in company internationalization, which in many cases limits the SME growth.

The SME growth generates a global impact in the SMEs, requiring a better quality service assurance, new relationships with clients, equipment and human resources investments. In general, it represents an increase in the quality and technical requirements.

Motivations and Challenges for Growth

In most of the cases, the main motivation for growth is the need of survival due to local market death or loose of local competitiveness.

Main challenges are related to the team generation, combining internal and external resources with different roles, skills and responsibilities.

Key Success Factors and Needs

According to my personal experience, there are two key success factors:

1. the integration of innovative elements (both at technical and managerial levels), and
2. the identification of the target market.

To support the SME growth there is a need in training and deep knowledge about the available options to access financial support, human resources and clients (networking).

“

The SME growth generates a global impact in the SMEs, requiring a better quality service assurance, new relationships with clients, equipment and human resources investments. In general, it represents an increase in the quality and technical requirements.

”

Business Leader Importance

Business leaders must possess a set of abilities combined with the existing tools and channels, such as:

1. Mobilize the network - exploiting all the channels supporting this for the physical and digital interaction.
2. Identify and seize opportunities - mainly their capacity to react to new market scenario (global and local crisis) as well as motivation to internationalize.
3. Leadership and management - internationalization and management abilities to implement company changes for service and product delivery.

Training Needs

Main training needs are related to:

- SME internationalization
- general knowledge about finances, human resources, management and market.

Since the Spanish SME sector is formed by micro local companies, in many cases such training are funded by only one funder.

As a result of digitalization, SME personnel upskilling and reskilling has become more necessary in all the areas. In addition, the integration of young members in the team

facilitate the use and integration of new technologies in the company, as well as innovative ideas and working methods.

In my personal opinion, the top 3 ranking of the specific training needs for Growth SMEs are the following:

1. Business model innovation
2. Internationalisation including awareness of opportunities on how to access finance and skilled workforce
3. Innovation management

Additional SME growth support

In my opinion, there are several ways the SMEs can be supported:

1. Hiring of young members to the team. Generation new ideas and knowledge about technology and management
2. Collaboration with business schools.
3. Generation of student teams in the University with complementary skills and capacities (ICT, engineering, economics and business management, law, ...) and provide them real and practical training in the SME (company analysis, new approaches, technology benchmark,...)



Past Experiences:

The SMEs use to be quite individualist, they only collaborate with other SMEs and clusters when concrete synergies are identified. There is a lack of networking, getting in contact with other companies and consultants to share ideas and contact details.

In most of the cases, the collaboration with HEIs does not generate added value in product commercialization or new market engagement. There is a misalignment in terms of project development timing.

There are many collaboration opportunities in terms of development and innovation, but they must be adjusted to the plan defined by the company.

Eduardo Gómez-Leal Pérez

Chief Commercial Officer
Nabix



COUNTY
Spain

CONTACT
UAH

DATE OF INTERVIEW
24.06.2021

METHOD
Off-Line

LENGTH
50 Minutes

METHOD
Fernando Perales

I have worked in the ICT sector for over 30 years, always in the Business-To-Business segment on multiple executive positions: Operations, Services Development, Product Marketing, Customer Care, Sales, Strategy, Business Development.

Nabix is Data Center Service provider with presence in Spain and Latin America, holding a portfolio of 11 Data Centers. Nabix provides colocation services to Large Enterprises, Carriers and Public Cloud Hyperscalers.

Nabix history:

Nabix started in July 2019 after the acquisition of Telefonica Data Centers in Spain and Latam.

The first 10 months were focussed on recruiting key staff in every country where we have presence, setting up the company and taking over smooth operations from Telefonica. After that we have focussed in generating leads and closing deals with customers.

Our business approach is as follows:

- Focus on limited services scope but operational excellence on such services.

- Assure Data Center infrastructure robustness and quality (investing in DC infrastructure improvement and obtaining Data Center quality certifications).
- Focus on customers demanding large colocation space and power: Hyperscalers (Microsoft, Google, Oracle, Huawei) and System Integrators.
- Build Data Center expansions with the flexibility and speed required by our customers.

Current bookings plus installed base is 69% larger than 2 years ago. Out of which 35% corresponds to organic growth and 28% to inorganic growth.

NOTE

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

Understanding of Growth

In terms of growth, Nabiax looks both for organic and inorganic growth. Regarding organic growth, we measure growth in revenue, EBITDA, installed base, number of customers and bookings. Our objective is to grow in all these items at higher rate than the market. This is so because we started in challenger position in all the countries where we operate.

We are interested in inorganic growth only in the region where the company operates.

Definitely so, as in the engineering companies growth is strongly dependant on technology progress and capability to serve and/or generate market demand for the technology products or services they offer. However, it should be taken into account that engineering companies growth, similarly to any other type of company, depends on the growth of the market sector they serve. For example, incumbent Telecommunications Operators cannot grow in revenue while Cloud Hyperscalers show a double digit yearly

growth.

About growth strategies, colocation services are highly commoditized; therefore, it is hard to differentiate by product functionality.

Our growth strategy is bases on two pillars:

- Customer service (quality operations and strong customer care)
- Investment capability to cope with the required Data Center infrastructure expansions

After the company growth, there are some transformations experienced by the company: (i) Need for clearer definition of roles and responsibilities of each company department, (ii) Need for internal procedures and ERP systems, and (iii) Larger autonomy of country offices versus Head Quarter.

Motivations and Challenges for Growth

The company owner is an Industrial Investment Firm. The owner objective is to capture current Data Center Market growth and hype and sell the company in a few years. The sell will only be successful if the company shows meaningful, sustainable and profitable growth.

The main challenges for growth in Nabiax are:

- Finding skilled professionals willing to join the company.
- Setting new hires up to speed in a very short period.
- Creating a successful company culture to be adopted by a staff recruited in a very short time, with different backgrounds and located in different countries.

“As in the engineering companies, growth is strongly dependant on technology progress and the capability to serve and/or generate market demand for the technology products or services they offer.”

Key Success Factors and Needs

We have identified two key success factors:

1. Being in a growing sector. Data Center services is a fast growing market.
2. Understanding our services is essential for the businesses of our customers. We provide mission critical services; i.e., if we fail, our customers business stops. Our customers trust us and we have gained such confidence by delivering robust services and meeting

our promises to customers.

In our case, the main need is to find skilled professionals combining technical expertise and customer orientation. We are finding relatively easy access to finance our expansion needs.

Business Leader Importance

I think that main abilities required in a leader to manage the business growth are leadership, global vision, customer focus and ... never panic !

Training Needs

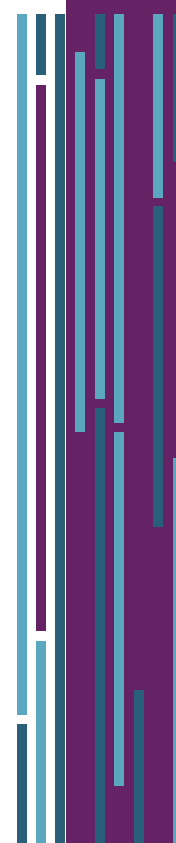
During the growth period, there are diverse and complemented training needs, such as:

- Project Management
- Consultive sales skills
- Negotiation techniques
- Data Center and inter-networking services and infrastructure.
- DC and networking management tools

Due to the digitalization, it is clear that

there is need for upskilling and reskilling of the human resources in all of the departments. As Nabiax is a young company, we are currently defining staff training program, which for sure must cover the areas previously identified.

In addition to that general topic, there are also specific training needs focused on entrepreneurship and business model innovation.



Past Experiences:

Currently, Nabiax cooperates with sales partners to enlarge leads generation and with universities for internship programmes. As we are a Service Provider, we do not perform research and our technology innovation is limited.

In this sense, there are several opportunities for SMEs and HEIs for collaboration:

- Find opportunities for students to know about our company, so it is perceived as a good place to work once they graduate
- Continue with the internship programme
- Identify Nabiax-University cooperation projects which can qualify for public funding (national or at EU level)

We would appreciate receiving support to access, and being listened by Large Enterprises C-Level executives. Large Enterprises normally have well established suppliers and are reluctant to listen offers from new companies, specially from young SMEs.

Carlos García

Co-Funder

Strategy Big Data



COUNTY

Spain

CONTACT

UAH

DATE OF INTERVIEW

30.06.2021

METHOD

Off-Line

LENGTH

55 Minutes

METHOD

Fernando Perales

Carlos García is co-founder of Strategy Big Data (2015), part of RocketHall (2018) an investor firm with companies operating in Europe and America. Previously he was a General Project Manager at Lucent Technologies. Carlos' current new challenge is his company's growth on Europe & LATAM, as well as building the new generation of call centers based on Strategy Big Data IA Products.

He has broad experience in the definition and implementation of digitalization strategies based on Artificial Intelligence and Big Data services.

Strategy Big Data is a company specialized in the development and exploitation of Natural Language Processes (NLP) techniques for automatic text transcription, focused in call centers.

In terms of company growth trajectory, it has been based on team increase with a close collaboration with customers.



NOTE

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

Understanding of Growth

As mentioned, we understand the growth based on the team, for that reason, one of the main factors is the salary payment by the end of the month. In this way, a recurrent and robust cash-flow is a critical factor affecting the product development.

With this aim, we try to establish a close collaboration with the clients to get feedback about new requirements, needs, market trends, and implementation of a lean methodology.

Focusing on engineering companies, human resources is the most critical factor for growing.

In addition to their involvement in the product development, they also enable access to bigger market and internationalization.

As usual, we have used some of the traditional strategies to manage and predict the growth in terms of product development and market penetration, Carloss said. However, they are only used to define the high-level goals; for detailed action plan the experience-based approach is preferred.

When growing, SME suffers its impact at all levels: human resources, talent acquisition, board and intermediate management, access to finance and management team.

Motivations and Challenges for Growth

Main motivation for growth is a combination of market demand aligned with the internal motivation to reach new market access. Most of the times, the main motivation is generated at owner and management board levels.

In this sense, the most challenging point for SME growth is the advance identification of the market demands and the new tendencies, so the company can be prepared to offer the required services.

Key Success Factors and Needs

Analysis and assessment of the entry and exit barriers as well as the current and future demands from the client side is key success factor.

Deeper knowledge about the market and the client needs, access to the required finance depending on the needs, talent acquisition and a well-defined strategy and action plan definition are also key factors for success.

“

We try to establish a close collaboration with the clients to get feedback about new requirements, needs, market trends, and implementation of a lean methodology.

”

Training Needs

There is a need of training to promote the digitalization of the SMEs at all levels, such as ERPS and access to resources both human talent and computing power.

Due to the digitalization process the team requires training for upskilling and reskilling. In this scenario, a combination of public (Universities, Research Centers) and SME training would be required, so it will be possible to offer generation of a theoretical and practical training programme.

In particular, we consider that entrepreneurial mindset is the most important specific need to motivate and manage the company growth, Carlos said. Then, the knowledge about the possibilities to access to capital is also critical to support the short-medium range cash flow. Finally the business model innovation, to modify how the products and services are delivered to the final customer both in B2B and B2C modes.

Business Leader Importance

The main abilities should be entrepreneurial and business vision, market and client focus and long-term strategy definition (3-5 years) .



Past Experiences:

SMEs must collaborate with as many partners as possible, when needed. They can provide technology, new service delivery and human talent.

Collaboration with universities used to be motivated by acquisition of public funds.

Main disagreements are generated by the development timing differences between public and private sectors. In addition, there is a lack of business perspective in this sort of institutions.

There is a clear opportunity for collaboration in the definition and implementation of stage in the private sector, working in the SME facilities to know and learn about the industry framework.

Juan José de Lucio

Economics and Business Sciences
UAH



Universidad
de Alcalá

COUNTY
Spain

CONTACT
UAH

DATE OF INTERVIEW
30.09.2021

METHOD
Off-Line

LENGTH
45 Minutes

METHOD
Fernando Perales

Juan José de Lucio is a Professor at the Echegaray excellence program of the University of Alcalá, Faculty of Economic and Business Sciences.

He has published several dozen scientific articles in international journals, some of them in top field journals. He is a regular collaborator in various scientific outreach projects, the media and public institutions. He has been leading research projects financed by public institutions (Ministry, European Commission) and private companies. In the last two years he has been principal investigator of three competitive projects financed by ICEX, Ministry of Industry and the Community of Madrid-FEDER.

Previously, Prof. de Lucio has carried out and managed research in various institutions such as Applied Economics Foundation (6 years), the Spanish Chamber of Commerce (18 years) and the Bank of Spain (2 years).

He is specialized in the field of applied economics in the field of international economics and business. Prof. de Lucio also works on regional, financial and economic issues.

He has owned and managed three companies in different sectors (telecommunications, consulting, retail commerce) and one spin-off company of the University of Alcalá (internet services).



NOTE

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

Understanding of Growth

His experience with the growth of smaller companies is multidimensional. In the first place, my research responsibilities as research director at the Chamber of Spain led me to lead several projects that have been finally published in books and scientific publications, likewise during this period, He participates in economic policy recommendations and design of programs that favour SMEs and specifically their growth. Secondly, we can highlight the experience as manager in several companies in which he had participation as an entrepreneur.

The growth of SMEs is closely linked to the perspectives of the entrepreneurs who lead them and the initial design of the project. Many entrepreneurs understand the company as a channel to obtaining income with the minimum possible costs and risks. In this sense, they prefer to maintain a limited size, controllable and without additional investment needs. Other projects are not scalable and it is not possible to make them grow.

Industrial companies are generally larger and with a greater vocation for broad markets. They have more human capital, more investment and more consolidated projects.

Usually, SMEs focus on intensive margin. That is in the growth of the products in the existing market (penetration) and new market development. The development of new products has costs for companies. Furthermore, SMEs may not have exploited all the economies of scale provided by products in which they already have markets.

The growth of SMEs has an impact on the entire structure of the company and requires new forms of organization, personnel management, firm management, marketing techniques ... It is a profound but necessary transformation to gain productivity and competitiveness.

Motivations and Challenges for Growth

The main reason for the growth of a company, as well as for the creation of a company, is to obtain economic profitability. It is true that some companies pursue other types of objectives of a social or environmental nature, for example. But in all cases the financial sustainability of the activity is essential. The search for this sustainability may be due to structural

factors, such as business strategy, or to circumstantial factors, such as an economic crisis.

The main challenge for growth is internal transformation. Growth has implications for the organization, the culture, the expectations of workers, etc.

Key Success Factors and Needs

The main success factors are the focus and the work of all the members of the company in the same direction. For growth, economic resources (financing), technological transformation (ICT) and internationalization (wider markets) are also necessary.

In terms of needs, financing is essential. Most small businesses are financed with their own resources or from Family, Fools and Friends (3F). These financing channels greatly limit growth. In addition, there are

a series of administrative and bureaucratic barriers that impede growth. For example, there are several regulations that imply higher costs for companies that reach a larger size. The empirical evidence indicates that some companies decide to remain in a size immediately smaller than that implied by these higher costs. Regulatory simplification would greatly help business growth. An adequate institutional and social framework that favours growth is also essential.

Business Leader Importance

Business leaders have individual characteristics that allow them to lead projects. However, these characteristics can be educated, promoted and supported. They are also of very different

types. In other words, there is not a unique combination of characteristics, but in some cases it can be as simple as having the ability to delegate or to look for a suitable manager to rule the company.

Training Needs

First are those related with management (finance, human resources, marketing, fiscal, TIC, etc). There is also a need of training related with international markets.

Of course, digitalization, TIC and technological transformation of society raise new needs for upskilling and reskilling. This is a necessity for SMEs, especially for growth.

The specific training needs for growth

must cover many areas, those are:

1. Entrepreneurial mindset
2. Innovation management
3. Access to capital
4. Business model innovation
5. Internationalisation including awareness of opportunities on how to access finance and skilled workforce

SME growth can be supported, and the implementation of politics can be improved.

How: economic resources, research, culture and education, high qualification personnel, appropriated regulation and institutions empowered to promote SMEs Growth.

Who: Chambers of commerce, ministry and local institution, universities, for example.

Cooperation for Growth

It is rare for SMEs to collaborate, if they do so, it is usually carried out informally with companies of a similar size or with acquaintances. The processes are usually very informal. SMEs are usually quite independent in their decisions and autonomous in their growth.

In his opinion, SMEs leaders and managers do not have a good understanding of what it means to cooperate with HEIs.

There are many possibilities for collaboration between Growth SMEs and HEIs. These opportunities can range from the design and improvement of an expansion plan, support for internationalization, the development of new products and services, the recruitment of talent, etc. We shall not forget either the training possibilities offered by HEIs that can be relevant for smaller growing companies.

David Cañones

SME's Owner
WhiteBox ML



COUNTY
Spain

CONTACT

DATE OF INTERVIEW
10.06.2021

METHOD
Off-Line

LENGTH
45 Minutes

METHOD
Fernando Perales

I started working as an operations consultant for a big services company and shifted to a Data Science position by the end of 2015, driven by the amount of data and the potential of task automation of my employer. In late 2017, I moved from Seville to Madrid to work for one of the first firms specializing in providing Data & Analytics services. In 2018, I met my business partner while working for one of the big players in the Data ecosystem in Madrid and in late 2019 we decided to start our own business.

We started our company in late 2019 with two goals in mind:

1. to offer quality Data & Analytics services. In late 2019, almost any traditional consulting company was trying to join the 'data wave'. Many of those were degrading project quality to increase their return due to the high demand for that kind of specialized consultancy.

2. to support the digital transformation of middle-sized companies, reaching a segment that big players were not interested in.

We started as a group of two freelancers doing Data Science projects and we eventually rented an office. In mid-2020 the average size of our clients increased as we started to work for bigger

companies and started some international projects which allowed us to grow to 5 employees working full time. We do not have a business development team and our employees are all technical. Our growth is fully organic.

For the first year of the company, we were very hesitant to grow, thinking that delivering the same quality was not possible if we hired people. By the end of 2020, given the amount of work to do, we started to think about hiring more people. In February 2022, we grew from 2 to 5 people working at WhiteBox. In 2021, we also started a new business line of data monetization (data-as-a-service) with a commercial brand called DataMarket. This new product was designed to scale in sales but not in people.



NOTE

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

Understanding of Growth

Our company understands growth as doing more projects of bigger volume and selling more subscriptions to our datasets. Engineering companies are mostly B2B, and the growth path of a B2B company is usually not as explosive as successful B2C products or companies growth. The nature of the activities of an engineering company also involves long selling cycles of months or even years, while a B2C sale is in the range of minutes, hours, or days.

In relation to which are the main strategies used for growth, we may highlight the following:

1. Existing market penetration and new market development: doing projects that

are usually made by big consulting firms or reaching clients that can not afford big consultancy firm services.

2. Developing innovative and relatively new products like data-as-a-service (DataMarket).

For a services company, the transformation linked to the growth impacts directly staffing because it is the main growth lever. Management is also impacted. We had to develop procedures and started to implement Agile after the growth of our team.

Motivations and Challenges for Growth

In our case, the main motivation for the growth is related to having a stronger position in the market, serving our clients better, offering better working conditions to our employees, being less sensitive to market oscillations, and of course, increasing the value of the company.

These transformations represented important challenges due to the resource

and time limitations. In addition to that, growth usually needs an upfront investment. Many companies go to the financial markets to grow, but it is not our case, as we prefer to do bootstrapping and grow with our very own resources. As company founders we are very technical, lacking business skills and learning everything on the way.

Key Success Factors and Needs

Doing a great job and having a competitiveness to offer for our clients, as well as creating a strong company culture. In our case infrastructure is not a problem, as well as technical skills. Business skills and management experience is our main weakness. We are also a very small company (5 employees) so getting known and noticed by the market is a challenge.

SMEs also have a hard time accessing

opportunities in the public sector, which is extremely regulated with proposals designed to have lots of barriers that only big companies can overcome. The same goes for the public money for innovation projects, which needs specialized professionals who know how to prepare the proposals in the required manner to be taken into consideration.

“

Doing a great job and having a competitiveness to offer for our clients, as well as creating a strong company culture are key successful factors.

”

Business Leader Importance

Of course, especially for small companies, business leaders are condition for high percentage of the future success of the company, especially in the early stages of growth. Many companies which are now leaders in their respective segments got the benefits of experienced leaders with a

strong network and market recognition due to their success in previous ventures (think of Tesla, to name one).

Training Needs

As a small company trying to reach higher market quotas and visibility, the main training need is linked to the marketing and business relationship skills.

On the other side, we are a digital-born company in the IT sector, so our upskilling and reskilling training consist of online courses of the latest technologies, as well as participating in Kaggle competitions to develop those new skills in a real environment.

If we had to prioritize the four main training needs, these would be the ranking:

1. Access to capital
2. Internationalisation, including awareness of opportunities on how to access finance and skilled workforce
3. Innovation management
4. Business model innovation

Generally speaking, in order to the support SME growth there are three main pillars: (i) stable economic environment that encourages SMEs to take risks, (ii) tax environment that fosters growth, and (iii) access to public support (low barriers to access public contracts and low barriers to access public incentives for SMEs).



Past Experiences:

Our attempts at partnerships of any kind (especially with other SMEs) have not worked so far. We partnered with some companies of other sectors which wanted to add data & analytics services to their offering (we were the technical part and they take advantage of their existing clients' network). In the long run, we realized that we are the best at explaining what we do and how we do it, engaging with existing clients, and getting new ones.

We collaborated with universities in the framework of public-funded research projects for our clients (not directly as WhiteBox, but as a part of a larger team organized by our clients). Our experience has not been very good and many times we were approached by a client to fix or complete a work that the main contractor (the university) was unable to finish, putting the project and the public funds at high risk. In our experience, the university tends to be very theoretical and susceptible to paralysis by analysis, and lacks execution skills.

In our case, we collaborate with the Universidad Politécnica de Madrid as part of the company network where their students get training as interns after they finish their degrees or masters. They get the benefit of real-world project experience which increases their employability and we can have some talented recent graduates who may become part of the company after their internship finishes.

“

In our experience, the university tends to be very theoretical and susceptible to paralysis by analysis, and lacks execution skills.

”

Camilo Fernández

SME's COO

YODA – Your Digital Agency



COUNTY

Spain

CONTACT

UAH

DATE OF INTERVIEW

30.06.2021

METHOD

Off-Line

LENGTH

45 Minutes

METHOD

Fernando Perales

I'm an experienced project manager, focused in product development, sales and growth. I used to work as PM in thermo solar power plants around the globe and then began working in digital marketing. We are currently developing a SaaS (Software as a Service) that automates online presence and lead generation for SMBs

The company started 3 years ago. We have been pivoting around providing digital marketing services to SMBs at the lowest possible cost. We sell the service through partners who include our service in their portfolio.

The first 2 years were very difficult, and growth was being close to zero. We were understanding our value proposition and how to fit in the market. Last year we finally found our right value proposition and market fit and have had hyper growth.

NOTE

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

Understanding of Growth

In YODA, currently we are growing at a stable rate of 25% QoQ.

Our preferred growing strategy is based on framework partnerships, so commercial activity is very heavy, given our sales times usually take 6 months to close. Once the deal is closed growth along the partner is organic and very fast. As we provide a high value service for a low cost, we improve churn.

In terms of growth strategies, we use new product development and improving current existing solutions at a lower cost for end-customer. Our idea is to provide low budgets access to high technology solutions and broaden the use of

technologies by easing its use. Customers need to feel they don't need to learn something new that can be very far from them, but what they have hired does everything for them and provides results. Growth strategies are always different from what has been thought. One has to be ready to pivot and reinvent, by listening to what customers have to say.

Fortunately, so far we finance our growth by own funds.

Our current strategy is sustainable as we have long-term agreements that allow us to think in a long-term.

Motivations and Challenges for Growth

YODA's main motivation for growing is being able to improve SMEs business through the support in the digitalization process.

Once the company is involved in the growing process, there are some transformations that must be properly managed.

In our case, YODA had to transform several

times, specially the different roles in the company and how we're hierarchically structured.

As many other SMEs, the main challenge for growth is linked with the commercial activities. Finding people willing to buy your service on a recurring basis is critical to ensure continuous and robust cash flow supporting the daily activity of the company.

Key Success Factors and Needs

When offering a new service to SMEs that is not directly linked with their business activity, the main success factor is the balance of offering a great service for a very low price.

- Great service to offer real value for the money they are going to invest
- Low price to reduce the impact of the investment in the client SMEs on their financials.

In our opinion, the main needs for SMEs

growth are the following:

1. Digitalization, both SME digital presence and service delivery
2. Lack of tools to improve their businesses

By offering services enabling SMEs to compete in a global market (if needed) at an adjusted price is the perfect combination to promote their businesses till their targeted markets.

“

Main challenge for business growth is to find people willing to buy your service on a recurring basis.

”

Business Leader Importance

In small businesses the leader is a key component of the team. With the aim of generating client portfolio as well as commercial partnerships, their ability to mobilize the network is one of the most important activities. To support this, the business leader must be capable of

identifying where the opportunities are, both at commercial and resources sides.

There are other aspects that can be trained, like leadership and management, or hiring, like the management team.

Training Needs

In YODA, we normally need training in areas where we are new. In these cases, we seek for this training by self-learning and if needed courses.

In principle, teams need training depending on their area of expertise and where the business is going.

Due to the continuous digitalization process, we try hiring people with specific sets of skills. If they don't have it, we try to teach them or reward them for learning.

As mentioned, there are some specific

training needs that depend on the employee position, like entrepreneurial mindset and business model innovation. However, in order to support the SME growth we consider that all the team members must have some level of knowledge about innovation management and change adaptation. Other topics, like access to capital are too specific for particular departments or profiles.

It is easier to mobilize your targeted market, when you have a network that trusts in your capabilities.





Past Experiences:

When collaborating with other entities, we look for synergies with them. When needed, based on the project purpose and scope, we look for collaboration with universities for specific developments.

In general, the collaboration should be more business focused in projects developed in collaboration with private companies, where the complementarity of skills and access to the market are the most relevant aspects.

Deep technical developments are most of the times funded by public entities. Universities offer more complete set of competences and resources, although time to market is longer.

Lucía Abad

IDIP Sales Manager
IDESA/IDIP



Image retrieved from: <https://www.idesa.net/>

COUNTY
Spain

CONTACT
Lucia.Abad@idesa.net

DATE OF INTERVIEW
11.06.2021

METHOD
Zoom Interview

LENGTH
45 Minutes

INTERVIEWER
A. de Rooij & M. Ceccarelli

IDIP was created in 2015 through the merging of two former departments of IDESA: Industrial Plants and Field Erections and Shutdowns (both created in 2012). Although a subsidiary of IDESA, IDIP had its own structure and management.

IDIP aimed at first to include Turnaround execution, Engineering Procurement and Construction (EPC) projects, and Multidisciplinary Engineering Projects in its services portfolio. Overtime, IDIP services and product portfolio evolved until the current situation, in which we can identify four main areas: (1) turnarounds, including execution, PMC services and supplies, (2) modules and skids, (3) construction services, including multidisciplinary projects, and equipment

termination and installation, and (4) tank singular projects.

IDP's growth trajectory has undergone a substantial increase since its creation in 2015, experiencing more than 400% growth during its first three years (2015-2017). Between 2016 and 2019, IDIP's absolute growth rate was set to 1254,7%, which allowed the company to be ranked 110th in the Financial Times' Top 1000 Ranking of the fastest-growing companies, and 7th in out of the 54 European companies that entered the ranking in Spain.

Understanding of Growth

IDIP understands growth as an organic and steady process that develops over time. The company aims to engage in more projects in the future and to have control over them. For IDIP, the goal is not to achieve great results one year but to be unable to grow from there, but rather become a key long-term partner for its customers. In Lucía's view, the

only way to achieve this is to steadily grow over the years. This means gradually increasing the number of projects and staff supporting IDIP projects and its clients, while not neglecting their quality standards and identity, to ultimately increase turnover.

NOTE

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

Similarly to other companies, the growth path of an engineering company depends more on its operating environment rather than its status as an engineering company. If the environment is active and financially stable, there will be more projects and these companies are expected to grow.

According to Lucía, there are five crucial aspects of SME growth. The first one entails the *adoption of an entrepreneurial mindset*. Developing an entrepreneurial mindset is necessary to achieve the goals set by the company. It is done by setting milestones, making decisions and identifying lessons learned. Next is an *innovation management scheme*. In order to grow, it is completely necessary to be trained in innovation management to develop new ideas that lead to new products, services and solutions. Third, *knowledge of how to access capital* is essential. For Lucía, SMEs usually have limited resources and thus, getting

knowledge on the different ways to access capital and financing is fundamental for being able to opt for larger projects that help to promote the growth of the Company. Fourth, it is essential for the *business model to embed innovation in its strategic goals* and follow the trends of the market? how clients modify their behaviour to identify new opportunities, and then adapt our business to the same. Finally, *internationalisation* is one of the most important factors in the growth of an SME, including awareness of opportunities on accessing finance and a skilled workforce. In most cases, growth is linked to broadening the action area of an SME and knowing the market you are entering, its legal framework, potential local partners, or how to establish (or not) in that market are key factors to define the roadmap to that growth.

“

Finally, internationalisation is one of the most important factors in the growth of an SME, including awareness of opportunities on how to access finance and a skilled workforce.

”

Growth Strategies

IDIP is the result of new market developments and diversification of IDESA. IDESA expanded its market after understanding that its clients are demanding not only vessels, but also additional services such as on-site installation, replacement during turnarounds or installments on skids, and connection to the plant. This was the reason why IDIP was born.

Additionally, IDIP is continuously seeking to increase its market share by increasing its action ratio. The company started with small projects in Spain and has expanded with projects in Europe, Asia, Africa and America. Product development is a constant in IDIP's sector. Looking at the future, the energy transition is a reality to which IDIP needs to adapt by entering new sectors such as hydrogen, CCS or LNG Bunkering.

Motivators & Challenges for Growth

IDIP wants to become a key player in the sector and continue providing solutions to its clients. IDIP follows the example of IDESA, which has become one of the most important suppliers of PV in the world since it was created in 1993.

The main challenges to growth include

financial challenges and the lack of human capital concerning the increasing demand of the company's services/products, clients' growth, the presence of competitors in the market, and the need to increase staff and to achieve a steady level of growth.

Transformation

IDIP strives for steady and controlled growth as it wants to avoid an escalation that would cause the company to lose control of quality of its services. The staff

has been increasing steadily through the years, allowing them to have the necessary time to understand the company's philosophy and culture.

Key Success Factors

Lucía claims that the key success factors are reflected in the company's values; client-orientated, innovative and technological capabilities, reliability, strict ethical conduct, safety compliance, respect for the environment and very high quality in the project's execution. IDIP does not exclusively pursue economic profit, as it also wants its clients to experience the

company's real performance and inspire trust for future projects. Furthermore, Lucía reminds us that steady and controlled growth is key success factor. Through the years, IDIP has not been trying to reach the 'next level' of business until growth has been consolidated. This allows the company to maintain the quality standard.

Main Needs

Undoubtedly, infrastructure, skills, management, access to finance are relevant needs for SMEs. It is the sum of these, among others (strength of the activity sector, industrial and labour policies, established supply chain, etc.), that allow an SME to grow continuously. In any sector of activity, but especially in one as critical as IDIP's sector, companies cannot afford to fail. It is the need to gain credibility that makes it possible for SMEs to grow in the client portfolio and

therefore increase sales. Once that dynamic has started, it must be accompanied by an increase of staff, resources and, depending on the type of growth, skills.

On the one hand, there is a need to increase sales by reaching more clients and expanding IDIP's action area which, on the other hand, needs to be accompanied by an increase of staff, resources and, depending on the type of growth, skills.

Business leader importance

According to Lucía, one of the qualities that contribute to her being a leader is her ability to *mobilise a network*, which depends on the company's reliability with customers, suppliers, employees, etc. Of course, maintaining IDIP's current network and continuing its expansion in the future is a key to its competitiveness and sustainability. Additionally, as a leader, it is *fundamental to identify opportunities* and also to define which ones can offer the best results to IDIP. Additionally, IDIP wants to identify opportunities that also offer relevant advantages to the IDESA Group, regarding the manufacture of certain supplies. IDIP believes in *team*

leadership and the sum of effort and teamwork. As Lucía states, true leadership lies in empowering each member of the organisation to feel useful and to act as leaders themselves in their daily tasks. The good of the whole must be above the benefit of the parties, and true leaders must avoid being protagonists, guiding the company's strategy in the medium and long term. Finally, *each member of the staff should be extremely competent*, which simplifies the decision making of the management team. They should also have unique abilities and experience, and the leader should be able to manage and coordinate them.

Cooperation Partners

The company has been very active in collaborations on all fronts. The collaborations established have been very positive for all parties, taking advantage of the best of each of the parties: industrial, scientific and university. More specifically, IDESA collaborated with Technological Centres, such as IDONIAL in Asturias, AIMEN in Galicia, and TECNALIA in País Vasco, as well as with company clusters, like METAINDUSTRY and SMART EUREKA CLUSTER.

Cooperation with Universities

IDESA (and IDIP) are collaborating with the local university by facilitating student internships at the company. The collaboration has historically been a success and helped a few people at the university to start their careers at IDESA. Additionally, the company collaborates with some international Universities based in Coimbra, Modena and Athens in several R&D projects.

Overall, cooperating with universities allows the group to have a different point of view. As the staff is involved daily in the industry, it has a more pragmatic approach to innovation. As Universities are more focused on theoretical aspects and research activities, collaborations lead to brand-new perspectives, which themselves lead to innovative solutions. In particular in collaboration with technological centres, they have developed new welding control processes, new solutions for coatings or optimisation of processes by means of digitalisation.

“

As Universities are more focused on theoretical aspects and research activities, collaborations lead to brand-new perspectives, which themselves lead to innovative solutions.

”

Growth Training Needs

IDIP growth has been closely linked to the expansion of the company services portfolio. There was a clear need to train IDIP personnel in new skills relating to new IDIP activities, with special regards to on-site safety.

Furthermore, the company needs to be up to date on safety standards governing IDIP projects. For Lucía, the company also needs to be aware of market trends, being up to date with energy transition, and new technologies. In general, IDIP places special attention on multidisciplinary-skill training sessions, which enable problem-solving, decision making and self-management mentalities. The most needed trainings according to Lucía are for digitalisation skills, new technologies in the market, legal and management training, as well as international growth.