European Entrepreneurship Case Study Resource Centre

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AMET Ltd (Bulgaria)

Maria Vasilska
University of National and World Economy

Kiril Todorov
University of National and World Economy

Luca Iandoli
University of Naples Federico II

This case has been prepared as a basis for class discussion rather than to illustrate either the effective or ineffective handing of a business / administrative situation.

AMET Ltd

Introduction*

It was early 2008 when Mrs. and Mr. Popov had to make a major decision about the future of AMET, their family company. The enterprise was launched with the ambition to manufacture and sell an electrosurgical apparatus invented and patented by Mr. Popov**.** They had established their own business in 1995, by coordinating a joint venture with the German company Bertberg GmbH[*]. During the next eleven years the joint venture began to produce more popular electronics and to develop advanced medical equipment. In late 2006, Bertberg ceased its participation in the joint venture and the Popovs' firm became an independent company with complete Bulgarian ownership. The new name of the firm was AMET Ltd. which originated from the German expression 'Allgemeine Medizin – Elektronik – Technologie'. The new company continued to fulfil the agreements for another year until the end of the contract, producing various electronic and mechanical products designed mainly for the market of medical equipment and instruments.

After Bertberg's withdrawal, the Popov family managed to keep their contacts and main clients, and they wanted to continue to strengthen the company's positions as a reliable and preferred partner not only in Germany, but also the global marketplace. While the agreement with Bertberg (a major international manufacturer) had provided a steady flow of revenues and a shelter from harsh competition in the past years, Mr. Popov now had more freedom and the opportunity to focus on the development and marketing of his inventions, but this would mean engaging in a riskier business environment. So, after Bertberg's withdrawal from the joint venture, the main question for the two Bulgarian entrepreneurs was:

> *"Which direction should we take for the survival and development of the company? Specifically, how should the product portfolio be redesigned and on which products should the company base its growth for the coming years."*

* The authors express their gratitude to Mrs. Jeanette Popova – co-owner and general manager of AMET Ltd., for her kind assistance in the elaboration of the present case study.

* The names of the company's partners are changed, all other data are real.

Background

In 1995, Mr. Popov was a young scientist who had developed an original electrosurgical apparatus, designed to be an alternative to the traditional manual surgery. The prototype of the unit he had created as a student at the Technical University of Sofia was the main output of his thesis work. However, these were turbulent years of economic and political transition in Bulgaria when science was no longer a priority of the state. Mr. Popov decided to abandon the scientific career and to instead try to find a market for his invention. Another motive for this was the fact that similar equipment was not produced in Bulgaria at that time, and only imported products were sold on the market.

In the beginning, he and his wife did not possess assets and financial resources and they applied for a grant to the Eureka Foundation. Unfortunately, due to the insecure environment and the lack of investment climate in the state, the Popovs only received a small short-term credit from the foundation. They could not convince the foundation, and other institutions, of the viability and importance of their initiative and they did not obtain the necessary funding. For that reason they contacted several German companies to try to find a business partner interested in the commercialisation of Mr. Popov's invention. The choice of Germany made much sense to them as a country to look for a potential partner because Mrs. Popova had finished her higher education there, their family was German-speaking and at that time the German company Siemens was the leader in sales of medical equipment on the Bulgarian market.

After some investigation, the Popovs choose as a partner Bertberg GmbH from the town of Tuttlingen, Germany. Bertberg was a company that became well-known on the market for medical instruments and equipment as early as the 1930s. Together with Bertberg, the family established a joint venture in which the ownership was divided into two equal parts. In addition to production and sales in the European market of Bulgarian electrosurgical devices, the Bertberg's management noticed the opportunity for the joint venture to manufacture mechanical elements of lighting systems for operating theatres (see Appendix One). The image of the Bulgarian machine-building industry before 1989 (with world class specialists and equipment) contributed to the high appreciation of the company's potential for this endeavour. Although, at that time, the two Bulgarian entrepreneurs did not have machinery or production facilities to implement the venture, they did not give up the opportunity to manufacture mechanical details for Bertberg's production.

Initially the production was outsourced to other Bulgarian companies that had the necessary equipment. It took one year for the company to continuously improve their output, and eventually the outputs fully met the requirements of the German partner and were suitable for direct incorporation into the end products without additional processing in Germany. As a result of the acquired technological expertise, the company began to develop its own Mechanics Department with the purchase of the necessary equipment and the recruitment of specialists and workers in this field. The manufacture of mechanical parts of operational lights quickly became the main activity of the joint venture. The strength of the Bulgarian specialists in the electronics industry did not go unnoticed by the German partner. Over the years the joint venture evolved into a research and development unit of the German corporation, and the Bulgarian specialists created many innovative products for Bertberg. One of the most significant projects undertaken in research and development was the development of an integral electronic control unit for surgery tables (see Appendix Two).

In 2006 the German enterprise sold its electrosurgical production to an American company, and therefore, it sold its share of the joint venture to the Bulgarian partner. However, this did not interrupt their business relations, because Bertberg produced surgery lights and tables that AMET sold on the Bulgarian market as their official representative. As a subcontractor, the company continued to produce for Bertberg electronic control units for surgery tables and metal details. Moreover, they designed a contract that secured regular orders by the German company for the next three years.

The Popovs were aware that Bertberg had played a decisive role in their personal growth, both as entrepreneurs and as managers. Through their German partner the Popovs had made their first strategic steps toward the future; their personnel had learned to work from a Western model (as they had introduced the necessary standards for this), they had acquired self-confidence and gained a credible reputation. For a number of years, the German company had been a guarantor for the qualities and the reliability of the Bulgarian enterprise to German suppliers and crediting institutions, and vitally it had contributed to winning new strategic partners. The question that now remained for the entrepreneurial couple was: *"where do we focus our entrepreneurial effort now that our prestigious partnership has weakened?"*

Managing the Transition

The Popovs now had an opportunity to manage the business independently. Mr. Popov was responsible for R&D and operations, while Mrs. Popova was the general manager of the firm. In this position Mrs. Popova was comfortable and confident because she had already gained considerable managerial experience, and she also had the necessary background due to her two higher education degrees, one technical and one in economics.

Although their company had expanded to over 60 employees (see Appendix Three), the entrepreneurs were pleased that a warm family atmosphere of informality and respect for individuals was the principal organisational atmosphere within their enterprise. Amid the fierce competition for attracting quality professionals, the Popovs sought to motivate their employees and offer them attractive salaries, good working conditions and additional incentives. Therefore, it was not surprising that many of the company's employees, having entered it during the early years, decided to stay also in the transition days. From the organisational perspective, the company was divided into four departments, each having specific objectives, tasks and expertise.

1. The **Research and Development** Department consisted of four people who had worked for the company for many years; this was 'the heart' of the company. This department had been able to develop an entire generation of electrosurgical units and accessories for the organisation. A particularly valuable product in this product line was the argon-plasma coagulator, a device to execute bloodless surgery. Until those days the firm was the only Bulgarian producer of this high-tech, and very prominent product. Among the achievements of this department's specialists were a number of sub-systems developed to be embedded into more sophisticated products such as switching power supplies for surgery lights or control units for surgery tables and saunas. The tangible evidence of the innovative value of the work conducted by the R&D department was the registration of six patents covering products in different application areas.

2. The **Electronics** Department succeeded the R&D department, as this department manufactured the electronic components and products developed by R&D, and mass produced them for the market. At the same time, the department provided technical support and service repairs for the products available in the Bulgarian market. Three

major product groups were produced in the department – electrosurgical apparatuses, control units for surgery tables and sauna controllers.

3. The **Mechanics** Department was slightly bigger than the Electronics Department in terms of the number of workers, production volume and capital turnover. With the help of Numerical Control Machines, this department was able to produce high-precision, mechanical elements made of aluminium and steel to be assembled into more complex end products.

4. The **Marketing and Sales** Department was initially started with the aim to promote the company's production of electrosurgical appliances in the domestic market. Having built a good reputation among the hospitals in the country, the company had earned the trust of other leading manufacturers and had evolved to become an official representative for Bulgaria. Currently, the Marketing and Sales Department was responsible for building the company's image in both the domestic and international markets, in order to increase sales and to improve the quality of the support and service repairs.

The Alternatives for Future Development

Considering their recent history, the experience gained and what they had achieved, the Popovs came to the conclusion that they should make an important decision regarding the development of their enterprise. From their business experience, the two entrepreneurs knew that there were two main business models for the small and medium-sized enterprises in their industry: small-scale production and subcontracting. In the past, they had applied a combination of both, but the mix was heavily unbalanced towards subcontracting. In fact, the alternatives were not mutually exclusive. They wanted to apply both disciplines in their business model, however, the question remained:

> *"What is the best mix for our company, and once this mix is chosen, what will be our organisational priorities and how to implement this plan?"*

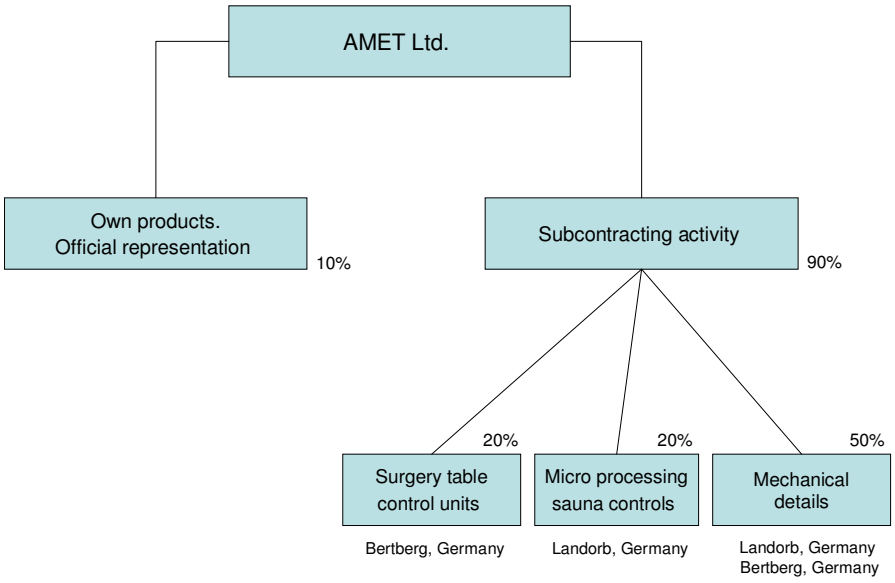
<u>Model 1: Subcontracting</u>

In the subcontracting option the entrepreneurs have to invest in order to create the conditions for an improved market position of AMET, as a reliable subcontractor for different mechanical and electronic parts and components. As a result, they could continue along the primary route that they have followed to date. The turnover of the company would also

include sales of internally made devices and products of foreign partners (as official representatives). Nevertheless, they had to find out how to make subcontracting activity more profitable and how to reduce risks associated to the strong dependence from a foreign contractor.

Working as a subcontractor had been the dominant model for AMET Ltd. The development and manufacturing activities of the firm were directed to the needs of its foreign partners. Eventually, through the partner distribution network, the products of the enterprise reached more than 80 countries worldwide. Currently, the revenues from sales of internally made products and from official representation formed about 10 percent of the turnover, while the remaining 90 percent came from subcontracting activity. As a subcontractor the firm produced a variety of devices, from high-tech electronic products to components produced in the mechanical department with materials supplied by the clients. The biggest contractor of the company, which had become its main strategic partner even during the joint venture with Bertberg, was the German industrial giant Landorb GmbH, specialising in the manufacture of hanging arms for operating rooms lighting and for other medical equipment, as well as of equipment for hairdressing saloons. The Bulgarian specialists have been working for Landorb for more than eight years, and soon the German firm became the most important customer to the Bulgarian company. Currently, over 50 percent of the turnover was accumulated out of the orders of this contractor. Figure One below details the structure of the turnover of AMET Ltd. and the largest clients for its main subcontracting activities.

Figure One: Turnover of AMET Ltd. and the Company's Largest Clients



The Popovs analysed the key benefits, prospects, weaknesses and risks of their firm's operation as a subcontractor, and came to the following conclusions:

1. The main advantages and benefits of the subcontracting activity for them were:
    a. They had overcome their initial isolation and shortage of resources in the start-up phase.
    b. Reputation – AMET was recognised as a reliable producer of electronic and mechanical appliances and components. Their firm had become distinguished and well-known among the major European manufacturers of medical equipment.
    c. They had secured a good market share without considerable marketing costs – through the marketing efforts, trademarks and distribution channels of the contractors, AMET's production reached the end customers of medical appliances and instruments. The Popovs would not have been able to reach the European and global markets by themselves in such a highly specialised industry, and this was certainly beyond the capability of a middle-sized producer from a small country like Bulgaria.
    d. Growth and opportunities to develop their business – the growth and the development of AMET in terms of number of employees, turnover, assets and

reputation were directly related to the work for the big contractors. In recent years, the average annual growth rate of orders for production of various components and devices was varying between 30 and 40 percent.

e. Low risks – they produced and sold their articles with relatively low risk. The legal, economic and financial responsibility for the completion and realisation of the end output was taken by the contractors.
f. Stable revenue – the subcontracting activity ensured relatively secure and regular income to finance the development of their own products.
g. Acquisition of technical, organisational and managerial know-how from clients – they had the opportunity to learn and create product innovations, while at the same time having a safe and secure market. Since its foundation, the company developed an intense innovation environment related to the work for their contractors. Upon request, and with the support of the contractors, the AMET's specialists carried out the development activities, worked out new products and adopted new technologies. The company had many opportunities to increase the qualification of their personnel through the acquisition of specialised knowledge and skills within the collaboration with competent and experienced employees of the contractors.
h. Entering new markets – working for famous companies was a great advantage in establishing new contacts and developing networks. Now it was much easier for the company to formulate offers to new clients, usually large companies, and to receive feedback. From their work for global companies, enterprises with limited resources such as AMET may acquire popularity and gain other strategic customers for its various products and competencies.

2. The subcontracting activity had a number of weaknesses and was also connected with some risks, including:
    a. Production of labour-intensive products with low added value – such products include the mechanical articles, and they were responsible for 50 percent of the company's turnover. Although the contracts for the production of mechanical details secured the company's stability, they were not a promising direction for development. Conversely, the orders for electronic devices and systems (for example, control units for surgery tables or saunas) had been developing at a faster pace than those for mechanic parts. Those products were much more innovative

than mechanical components. The manufacturing process of these products was under the complete control of AMET and this production created much more added-value than the one developed from the design provided by a partner, as it was the case with the mechanical parts.

b. Strong dependence on one contractor – it was not good for the firm to be so strongly dependant on the orders of one main client, such as Landorb. As a result, they were constantly seeking other customers for their mechanical and electronic devices.
c. Lack of entrepreneurial challenges – the Popovs had already tasted the success of their own products. They enjoyed the respect of their colleagues, producers and distributors, as well as of the doctors who used their electrosurgical apparatuses. In this sense, the idea to be an anonymous producer of articles did not present any substantial technological challenge and was not appealing.
d. Uncertainty – according to the entrepreneurs, there was a significant amount of uncertainty in the subcontracting activity, because there always was a risk the clients would change their subcontractors depending on the market situation. The Popovs also considered the fact that the industrial and the trade policies of the Western companies had changed significantly in the recent years. When they had started the firm, the Western manufacturers were seeking subcontractors primarily from the Eastern Europe. They were mainly motivated by cheap labour force. However, the market had currently evolved and the Western firms were looking for Bulgarian partners more for trade as opposed to investing in them.

Comparing the advantages and risks of subcontracting, the entrepreneurs realised the huge role that this activity had played for the development of their company. However, they felt that they had accumulated a sufficient level of experience and confidence to achieve something bigger. For that reason, they had to decide whether to turn AMET into a reliable and irreplaceable subcontractor while seeking new contractors, or to invest in the development and production of their own products.

Model 2: Production and Sales of Internally Developed Products

The alternative business model for the future development of the company was the production and sales of internally developed products. The two groups of products that the company was able to produce independently and sell successfully were electrosurgical apparatuses and

sauna controls. The other issue under examination was whether the firm should focus on medical equipment or diversify to include in the portfolio more popular electronics, such as controls for saunas.

The attractiveness of the idea for the internal development of products on a larger scale was based on the entrepreneurs' desire for independence and greater profits. AMET Ltd. has earned the status as a strategic subcontractor for large companies. This gave the organisation the chance to determine many of the conditions for cooperation with the contractors. However, the entrepreneurs felt some frustration due to the inability to set their own production plans because ultimately they had to comply with the plans and priorities of the contractors. Moreover, working as subcontractors had not allowed the Bulgarian specialists to show their creative potential. The successful production and distribution of their own products would enable the entrepreneurs to develop the business according to their creative plans; it would bring them much more satisfaction and would hopefully return significant profits.

The preconditions for the successful implementation of the idea were the following:

1. Significant technological and managerial experience in manufacturing and selling electronic products – AMET Ltd. had already its own trademark for electrosurgical products. The company had manufactured these products since its foundation and it had a solid experience, know-how, as well as material and human assets. The company's specialists developed and produced these devices independently, and had already conquered a significant position in the national market. Although the Bulgarian market was small (AMET sold 30 sets per year), it was relatively safe and it formed a permanent flow of the revenues of the company. Through AMET's successful joint venture with Bertberg the sales of their apparatuses abroad had also been profitable. Previously, Bertberg had sold around 1,000 units of AMET surgical devices in the European market annually. As a result, the production and growth of products designed by AMET was particularly appealing. The sauna controls were simpler devices designed and started several years later for diversification purposes and for the optimisation of the production capacity.

2. Presence of a large and growing market for electro-surgery devices – the technology of electro-surgery had been available for more than 100 years. However, production on a larger scale began only after the Second World War. At that time the products were much

bigger and vastly less functional than today. Moreover, some improvements could be constantly conducted. The apparatuses of each new generation were supposed to comply with new and more demanding requirements requested by more sophisticated surgery practices. The Popov family knew that in this field there was still huge room for improvements, and any company that was able to meet the ever changing requirements and apply the latest technological developments had a secure future in this industry. Electronic controls for saunas were also a highly demanded product due to the growing market for saunas, not only in sports and leisure facilities and but also in private homes.

The Popov family had to compare the above opportunities with the difficulties and risks of manufacturing and selling their own electronic products:

1. Primarily, a switch toward independent production and commercialisation would require considerable investment, from which a return was not guaranteed. The main estimates had already been made and the Popovs had an accurate plan of the costs, time and the technical difficulties that could arise. The electrosurgical apparatuses were somewhat obsolete, and therefore, the investment had to be proposed for the creation of a new product line of electrosurgical devices. AMET had to finance the entire development, production and sale principally from its own financial resources. The development of the new generation products would take approximately 1.5 years and could require the efforts of all four specialists from the R&D Department of the company. Afterwards, a certification of the product was necessary which implied undertaking multiple tests to meet the international standards. The certification and the actual clinical tests would take an additional year.

   The path was also similar for sauna devices. The investment and the time required here would be smaller because the creation of new products would have required only incremental innovation in an existing device which they already produced as a subcontractor. However, in order to sell the sauna controls as AMET's products, they had to have a completely new look, while the functional and technical characteristics would be similar to those currently produced. So, the main costs would be for the realisation of a new box and for the necessary testing. All this would take more than one year.

The approximate estimates showed that the investment needed for the electrosurgical apparatuses was about 150,000 Euro, and for the sauna controls it was approximately 75,000 Euro. These financial resources needed to be allocated with regard to the payment of the time and the work of the specialists, for covering the material costs for the prototypes' production, for the mandatory certification and for the market research.

2. Lack of experience in a competitive environment – although for many years the company had been producing high-tech products, in reality they had never really been confronted with competition, because so far they had enjoyed a high market power on the national market thanks to the reputation of the foreign partners. However, they knew that the competition was now quite intense. These competitors included established names of large companies offering a wide range of electronic products; others were highly specialised, and thus, easily identifiable among the users of such products; a third group constituted new start-ups; and the fourth set included potential entrants. The competitors from the last two categories were difficult to identify. Information about them could be gathered at specialised fairs and exhibitions. The Popov's were aware that the most problematic competitors, in their case, were the companies established by former employees of the largest companies in this branch. The main producers who competed for the European market at that time for electrosurgical devices were American and German companies (such as Valleylab, ERBE, KLS Martin Group), while for sauna controls Finnish, Swedish and German firms (Havaria, Tylö, EOS). And among all of them AMET had to find its place.

3. Difficulties with market share and distribution – from their long entrepreneurial experience the Popovs knew that having a good product with all the needed certificates was not a sufficient condition for market success, particularly for a company from Bulgaria wanting to establish themselves in the European market, already almost saturated by established producers. As much as they wanted to advertise and sell their future products independently, the Popov's were aware that they lacked the resources and the capacity to do it. To reach as many customers as possible they had to develop a partnership with companies that had built a distribution network at the European, even global, scale. Their former experiences confirmed this conclusion. Until a year ago Bertberg had sold their surgical devices on the European market. The final price of the

different types of apparatuses ranged between 1,500 and 5,000 Euro, and the company was able to sell approximately 1,000 units per year.

The same concern was raised for sauna devices. At that time, the major customer for the sauna controls was Landorb. The company offered for sale on the European market several groups of products for building sauna cabins. Some of them were outsourced to the Bulgarian enterprise while Landorb monitored the marketing and distribution. Landorb was the third company on the European market in terms of volume in sales of sauna controls. It bought about 8,000 to 10,000 items per year from AMET, which represented a turnover of around 450,000 to 480,000 Euro. However, in the near future things would change because Landorb was in the process of exiting this business and selling their entire production line.

For the Popovs, all of this illustrated that the best option for the sale and distribution of the new products was to find foreign companies engaged in the above product market realisation. Finding such foreign partners would not be an easy task, especially for the surgical devices. From their previous experience, the Popovs knew that the company distributor had to be known on the market of medical equipment and instruments, and had to be able to provide a large quantity of appliances. The process of building mutual trust and well-working relationship was also very important and time consuming. In general, building relationships with foreign business partners went slowly and with difficulties, but the entrepreneurs believed that once they have established themselves, their efforts would be worthwhile.

Conclusion

Until quite recently, the enterprise was a joint venture with a German company which had grown to 60 employees. Its main activity was related to manufacturing of electronic and mechanical products intended mostly for the market of medical equipment and instruments. Some products were internally developed, while other, bigger part of the output, the company produced as a subcontractor. For almost two years the company had been an independent company with complete Bulgarian ownership. The moment for making a decision regarding the strategic direction of the company was upon the Popvos – whether to continue on the path followed so far (to work mainly as subcontractor), or to make sound investments for reorienting their production towards more products with their own trademark. Both options had their strengths and weaknesses. The entrepreneurs had already compared them and made

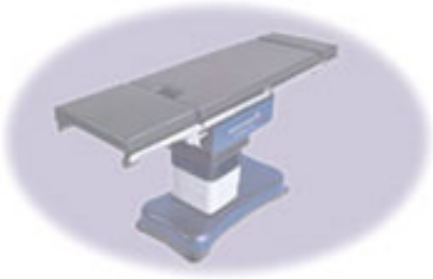
the necessary estimations. Consequently, the company could potentially continue to apply a combination of both business models – own production and subcontracting. However, the Popvos felt that they must decide on the strategic direction of their company as the entrepreneurial couple had been asking themselves: *"Which business model should lead the company forward? And which of the two options requires more investments regarding time and financial resources?"* In other words, the entrepreneurs had to decide whether to do everything possible to turn the company into a reliable and hardly replaceable subcontractor, or to invest in the development and market realisation of their own products?

Appendix One

Lighting Systems for Operating Theaters

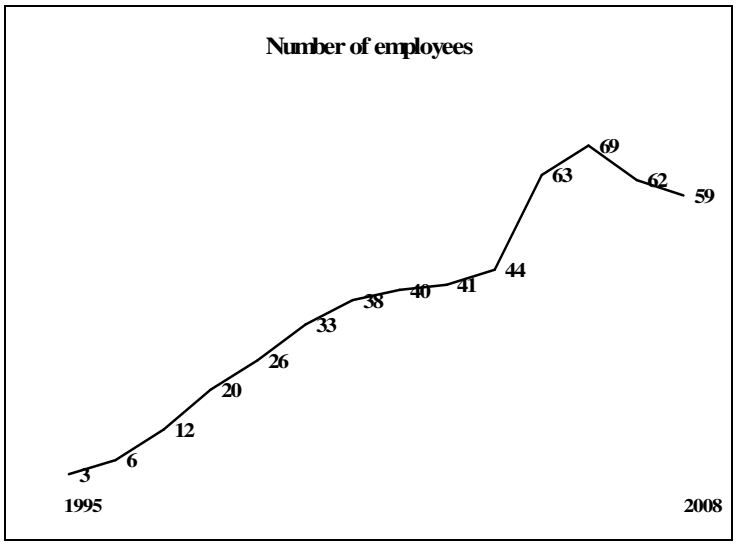
Appendix Two

Surgery Table with Electronic Control Unit



Appendix Three

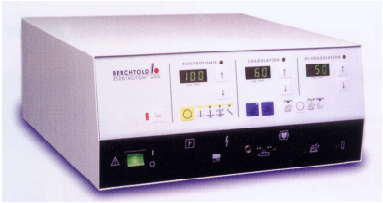
Growth of the Company



Appendix Four

AMET's Products

One item of the first generation electrosurgical devices



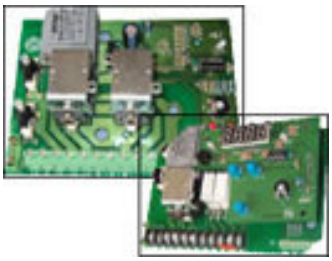
Electrosurgical unit "ELEKTROTOM® 620" 200 W

The most valuable product in this product line

Argon-Plasma Coagulator (in combination with electrosurgical unit)

Appendix Five

Sub-Contracted Production



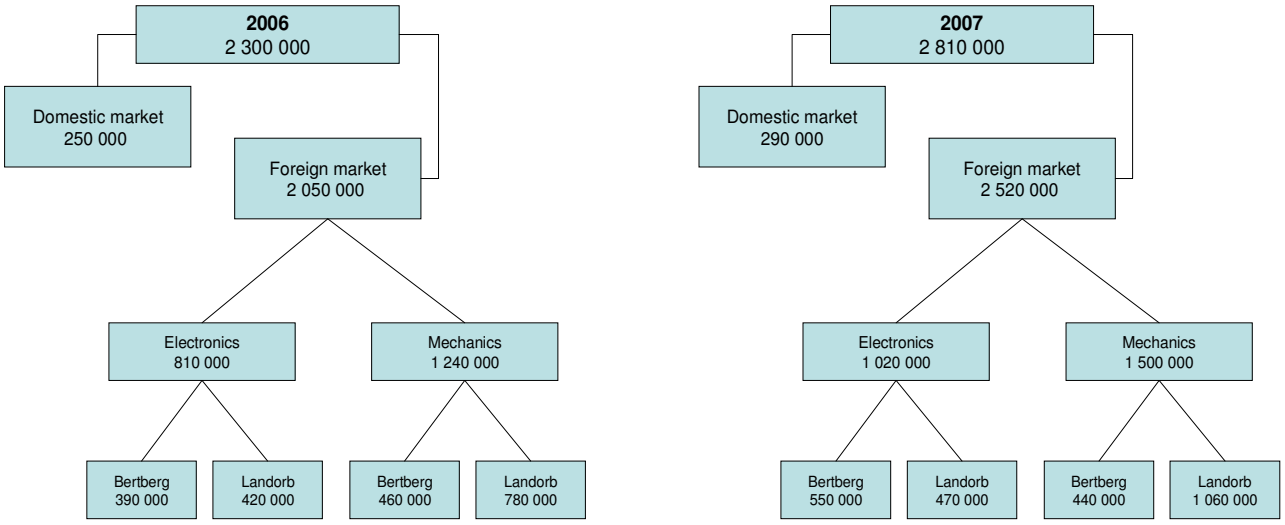
Micro processing sauna controls

Micro processing
control units for surgery tables

Mechanical details

Appendix Six

AMET's Turnover for 2006 and 2007 (Euro)



Domestic market:	AMET's electrosurgical appliances and products of foreign partners (official representation)
Products for Bertberg:	Surgery table control units, switching power supplies for surgery lights, mechanical components of hanging arms for operating rooms lighting
Products for Landorb:	Sauna controls, mechanical components of hanging arms for operating rooms' lighting

Appendix Seven

Timeline of the Events in the Case

1993	Invention of an electrosurgical apparatus
1995	Establishment of Bulgarian-German JV
1996 – 2006	Production and sales of electrosurgical devices on the European market
1996 –	Production and sales of electrosurgical devices on the Bulgarian market
1996 – 1997	Outsourcing of mechanical details intended for Bertberg's production
1997 – 2008	Manufacture of mechanical components of hanging arms for operating rooms lighting – for Bertberg
1997 –	Implementation of innovation activities – own and such for the needs of the contractors
1997	Development of own argon-plasma coagulator
1998 –	Manufacture of mechanical components of hanging arms for operating rooms lighting and for other medical equipment – for Landorb
2000 –	Development and production of surgery tables electronics for Bertberg
2002 – 2007	Development and production of sauna controls for Landorb
2006	Dissolution of the JV and renaming the company into AMET Ltd.
2006 – 2008	Work on concluded contracts – mainly with Bertberg and Landorb
2008	Consideration of the future development of the company