

# Budgetary Processes through Generative AI: A Comparative Analysis of Business Planning and Financial Data Modeling

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**Abstract:** This study aims to enrich the current literature on the transformation of the budgetary process by generative AI. We developed a business plan and budget for an online real estate platform. Using the case method, we compared both the usual tools (Desk Research on internet and hypothesis formulation and modeling using Microsoft Excel) and generative AI-based tools (Market research, Hypothesis fine-tuning and modeling). Our results suggest that while ChatGPT is time-effective in terms of market research, data analysis, and presentation, there is room for improvement in terms of data modeling in comparison with Microsoft Excel. The current version of ChatGPT is not mature and robust enough to be relied on to produce high-quality forecasts and modeling.

**Keywords:** Budgetary Process, Generative AI, Business Plan, Forecast, Performance Analysis

## Introduction

### *Rationale for the topic choice*

In the field of technology, progress and diversity are the key words that make the phenomenon of digitalization a must for any modern company. Digitalization phenomena include Big Data, artificial intelligence, cloud computing, social networks and the Internet of Things. These technological developments are essential tools for carrying out the activities of most businesses today. The introduction or installation of these tools alone will not achieve this objective of operational growth. What is needed is a genuine digital transformation process within companies that are jumping on the digital bandwagon. The essence of this transformation lies in integrating these technological resources into the company's DNA and core business in order to give it a logical meaning and maximise and perfect the results in terms of efficiency and fluidity. Finally, the modern enterprise, which is therefore increasingly being driven to be essentially a digital enterprise, needs to reconcile adaptation to innovative technologies with the company's objectives in order to make the digital transformation a reality. (Florenre & Christoph, 2018).

Secondly, artificial intelligence is one of the tools with the most recent innovations. Among the technological tools presented above is artificial intelligence, a technology that was initially developed in the 1940s, but whose functionalities and crucial nature in use have increased considerably in recent times. Artificial intelligence refers to the ability of a computer system to perform tasks that usually require human intelligence. The most significant advances in recent years have been the consistent development of Chatgpt, Midjourney, Invideo, Pigment AI and other conversational agents. While the ChatGPT chatbot provides access to logical, detailed and sequential information through responses to questions submitted during conversations, the Invideo application enables videos to be designed using simple, concrete instructions. These are the characteristics of generative artificial intelligence, which can be defined as the ability of AI algorithms to create new content in response to a given prompt, whether in text, images, video, music, voice synthesis or even computer code (Nadeau & Jobin, 2024). Finally, the practice of management control involves various stages which make it complex.

Management control, an essential corporate function aimed at budget management and performance monitoring, is carried out in several stages. Budget management involves creating the company's entire budget, as well as calculating and managing all the costs involved in

achieving the company's profits through budgetary control. This budgetary management is carried out on the basis of an examination of various documents relating to the company, taking account of current market data, and is achieved through the production of various forecasting diagrams, performance summary tables, variance analyses, and so on. Performance management sets the objectives to be achieved by each responsibility centre, and then verifies the level of execution of the tasks set over time.

Cautioning that each of these stages requires a high degree of concentration and rigour to achieve the desired results, it would be interesting to ask if generative artificial intelligence is able to immediately replace the traditional tools used in budget preparation.

**Research question:** Can generative artificial intelligence immediately replace the traditional tools used in budget preparation?

### ***Objective***

The aim of this research is to complement the current literature on the subject of the transformation of the management control profession by generative AI. The targeting of the field of management control is justified by the question as to the interest of the application of generative AI tools in the management control function in terms of budget preparation. This research provides additional perspectives on the implementation of generative artificial intelligence within an organization's management control system.

### ***Research gap***

We enrich the current literature by applying both traditional methods and AI-based methods to business plan forecasts and budget preparation. We, then compare between them in terms of time efficiency and output quality.

### ***Announcing the plan:***

In order to achieve the research objectives, a very specific development plan will be drawn up around the question of the role of generative AI in reconfiguring the role of the management controller. So, in the first part, we will look at the weight of the new trends in management control in a digital era and we will look in detail at the concepts and technologies linked to AI before exploring a review of works analyzing the impact of AI on management control.

In the second part, the study moves on to explain the chosen methodology and to frame the data collection method.

In the final part of the study, we will produce company budget forecasts based on hypothesis generated by AI and analyze the results obtained.

## **Literature review**

### ***New trends in management control in the era of the digital revolution: foundations and developments***

Management control is an essential corporate function, with precise objectives that can be grouped under the headings of providing managers with the tools and information they need to steer the organization effectively, ensuring the organization's performance by monitoring the gaps between the objectives set and what has actually been achieved, optimizing the use of available resources, motivating employees and contributing to transparency and accountability within the organization.

When it comes to the essential functions linked to the management control process, the following stand out: the planning function and the control function. (Appercel, 2022). As part of a company's cost control strategy, the ABC (Activity-Based Costing) method is a current trend in management control which allocates the costs of the resources to the activities, using the cost drivers to calculate the total cost of each activity. This process gives a more detailed picture of the costs associated with each product or service, as opposed to traditional costing

methods which are often based on global allocations in order to provide more accurate information on costs and profitability, which helps to improve decision-making.

Then, the Balanced Scorecard is a strategic tool that enables organizations to translate their vision and strategy into a coherent set of performance measures.

Based on four main perspectives: the financial perspective, the customer perspective, the internal processes perspective, and the learning and growth perspective, the BSC measures different but complementary aspects of organizational performance. One of the major directions sought in the creation of dashboards is the measurement of overall performance, bringing together financial and non-financial performance. (Lanore, 2023).

Finally, Beyond budgeting is an innovative and radical approach that challenges traditional corporate budgeting methods and focuses on transforming rigid annual budgets into more flexible, adaptive and decentralized management processes.

The beyond budgeting process involves a number of stages, all equally important to the proper implementation of budgets, such as all equally important for the correct implementation of budgets, such as moving away from traditional annual budgets, decentralizing decision-making, introducing key performance indicators (KPIs) and external benchmarks, establishing adaptive management processes, adopting a culture of transparency and accountability and ensuring strong commitment from senior management. (Lalli & William, 2012).

### ***Artificial intelligence: concepts, technologies and applications***

Artificial intelligence technologies refer to a set of techniques and computer systems designed to perform tasks usually carried out by human intelligence. This includes capabilities such as learning, reasoning, pattern recognition, natural language understanding and visual perception. AI uses complex algorithms and mathematical models to process vast amounts of data, learn from it and make decisions or perform actions based on this learning. As a typology of AI technologies, a significant number of models stand out, such as Machine learning, Deep Learning, Large Language Models (LLM), Robotics, Expert Systems, Computer Vision etc. (Roder, 2024).

Several AI application areas coexist to enhance efficiency, precision, and innovation within organizations across various sectors, demonstrating this technology's versatility and impact. We can therefore identify the health sector as a significant area for the application of AI in image analysis, disease detection, clinical outcome prediction, treatment plan optimization and the financial sector, including fraud detection, risk management, market analysis, and process automation compliance. The retail, manufacturing and education sectors are benefiting from the implementation of AI, respectively through recommendation systems, supply chain optimization and improved customer experience (CRM) for the former; predictive maintenance, process optimization and automated quality control for the latter; and the automation of student performance assessments and the provision of adaptive learning tools for the third (ClassPoint AI, QuillBot or Slides AI). The transport and legal services sectors will also be transformed by the integration of AI (Nadeau & Jobin, 2024).

The integration and implementation of AI aim for optimization, efficiency, and smooth operations, but must adhere to privacy and security rules. As AI becomes central to strategic business processes, legal integration is essential, considering ethical and societal issues such as bias and discrimination, where AI can perpetuate unfair decisions in recruitment, credit, and criminal justice. Transparency and explainability of AI algorithms are concerns, particularly with "black box" models like deep learning, raising accountability and trust issues. Privacy and data protection are equally critical, given AI's need for vast personal data, necessitating compliance with regulations like the GDPR. AI's impact on employment, particularly in automating routine tasks, highlights the need for retraining and new skills. Additionally, AI in surveillance raises ethical concerns about human rights and individual freedoms. Finally, ensuring fairness in access to AI technologies remains a strategic ethical challenge to prevent

economic and social inequalities, promoting equitable distribution of AI benefits and broader access (Nadeau & Jobin, 2024).

***AI for management control: a review of the research literature***

Within the scope of AI technologies, numerous specificities emerge that are useful for the deployment and evolution of management control functions, representing a major element transforming the practice towards a more digitized approach. These contributions focus on improving data collection and analysis through machine learning and big data, providing real-time insights and facilitating decision-making. For instance, Kabbage and IBM Watson Analytics use AI to analyze financial data and generate accurate forecasts. AI also automates and optimizes planning and budgeting by providing reliable forecasts, enhancing performance monitoring through interactive dashboards, and identifying risks with tools like SAS Risk Management. Additionally, AI aids in cost optimization by analyzing processes to propose efficiency improvements and enhances communication within the organization through tools like Slack, ensuring better coordination and alignment of objectives (Nadeau & Jobin, 2024).

Observing case studies of companies that are pioneers in their sectors when it comes to implementing artificial intelligence technologies within their management control processes enables us to identify in concrete terms the immediate benefits that AI models have brought about.

First, we will examine how Siemens, a global industrial conglomerate in energy, infrastructure, industry, and healthcare, has integrated AI technologies into its management control processes to enhance financial forecast accuracy, cost management, and strategic decision-making. In response to a complex economic environment, Siemens aimed to improve the reliability of financial forecasts with predictive algorithms, optimize cost and resource management through automation and real-time data analysis, and enhance strategic decisions using advanced analytics. By collaborating with IBM and SAS, Siemens implemented AI solutions in stages, which included technology evaluation, data integration, machine learning model development, and user training. This integration led to reduced forecasting errors, the identification of inefficiencies and cost-saving opportunities, and valuable insights into market trends and performance, highlighting AI's transformative impact on management control functions (Siemens, 2023; Decideo, 2019).

As a second case study of a successful company, Unilever is a global leader in fast-moving consumer goods that has integrated artificial intelligence (AI) into its management control processes to maintain sustainability and competitiveness in a dynamic market. This digital transformation wanted to improve forecasting accuracy, optimize operations, and enhance strategic decision-making through advanced technologies.

Unilever established People Data Centres (PDCs) to collect and analyze vast quantities of consumer data using machine learning algorithms, which improved the accuracy of financial forecasts. The implementation followed a structured methodology involving collaboration with technology partners like Google Cloud and Microsoft Azure, and the integration of data from multiple channels. AI-enabled PDCs facilitated rapid data collection and real-time analysis, helping Unilever adjust marketing and distribution strategies effectively, enhancing operational and financial performance, strengthening competitive intelligence, and optimizing inventory management. This case study illustrates how Unilever leveraged AI to transform its operations and maintain a competitive edge (Unilever, 2022; 2024).

The adoption of artificial intelligence (AI) in management control presents several key success factors and significant obstacles, as evidenced by companies like Siemens and Unilever. A primary success factor is the commitment of management at all levels, ensuring proper resource allocation and fostering a culture of innovation. Substantial investments in technological infrastructure and continuous employee training are crucial, supported by top management. Another success factor is the quality and integrity of data used by AI tools, with

rigorous data management practices being essential. Collaboration with specialized technology partners, such as Siemens' partnerships with IBM and SAS, also plays a crucial role by providing technical expertise and proven solutions.

However, the adoption of AI faces challenges like employee resistance to change, requiring effective training and awareness programs to demonstrate AI's benefits. Technological complexity is another obstacle, demanding advanced infrastructure and specialized skills. Ethical and regulatory considerations, particularly concerning data privacy and compliance with laws like GDPR, also pose significant challenges (McKinsey, 2024).

### **Methodology**

The case method we used in our work is a valid and academically sound approach to research. It is a robust qualitative research method that provides deep insights into complex issues, allowing researchers to explore emerging phenomena like AI adoption within their real-life contexts. In our case, we applied our research question to the business plan and budget preparation of an online real estate platform.

The choice of the methodological approach developed during the creation of the business plan and forecast budgets for real estate companies rests on three key points: data collection from the client, desk research with the help of AI, and field research.

Initially, it was essential to establish contact with the company for which the business plan is being developed for the coming years. This step is indispensable for aligning the company's strategy with the budgets to be established. Key members of the company, such as top management, must provide crucial information regarding the company's strategic plans. This generally includes investment projects, outsourcing paths, or development plans that help understand the company's vision. Other important data required for budget preparation are previous financial statements and past budgets, offering a comprehensive view of the company's past performance. A third category of information concerns sector-related obligations or operational requirements, such as market risk premiums, commission rates, or social contribution percentages.

Next, desk research was used to gather important information and formulate hypotheses. This step involves researching key elements such as relevant market segments, main competitors, demand and supply analysis, economic trend evaluation, as well as identifying target market segments and investment opportunities. Identifying industry benchmarks during the documentary research could, for example, define the financial ratios method that can be applied to estimate operational costs and profit margins. An essential step in desk research is collecting data from varied and reliable secondary sources, including market reports published by real estate consultancy firms, economic databases, academic publications, specialized journal articles, and financial reports of competitors. By consulting these diverse sources, valuable information such as property prices, vacancy rates, rental trends, and economic forecasts can be accessed, providing a comprehensive and accurate market view. The next phase in the desk research methodology is data analysis. Financial tools and economic models, such as sensitivity analyzes and hypothetical scenarios, are used to refine forecasts and assess the impact of different variables on the company's future profitability. Following this, the verification of data and hypotheses against external sources and obtaining feedback from industry experts are critical to ensure credibility in forecasts and the solidity of the business plan.

Finally, field research complements the information already gathered. This involves exploring property characteristics, visitor flows in specific areas, and local market conditions through direct observation alongside current owners, tenants, and real estate professionals. To reinforce the reliability of conclusions, comparing data collected in the field with those obtained through desk research will be prioritized to ensure validation and triangulation. This

triangulation corroborates results and identifies any discrepancies or inconsistencies, thus providing a solid foundation for strategic and financial decisions.

## Results

The first result of this research was the collection of a large amount of essential data from market research. Indeed, the combination of Desk Research and consultation of the ChatGPT conversational chatbox has enabled us to come into possession of major data, useful for guiding the provisional budgets to be carried out.

ChatGPT scours databases, research articles, industry reports and news to gather relevant information on property market trends, demand and supply, and the economic factors influencing the sector, providing an accurate picture of the competitive environment, market opportunities and potential risks.

Next, the data analysis stage brings together a substantial amount of data. This analysis includes examining key performance indicators (KPIs) such as occupancy rates, sale and rental prices, and financial returns. Using natural language processing techniques, ChatGPT can transform raw data into actionable information, making it easier to understand the dynamics of the property market.

This makes it possible to produce a concrete presentation summarising explicit information relating to the company and its economic environment, as follows:

### *Presentation*

*The rental commission is a commission of 3% of the rental amount charged by CDLM for two rental segments:*

- P1 with an average monthly rent of 7,000.00 MAD, i.e. a commission of 210 MAD per file. This represents 70% of the target.

- P2 with an average monthly rent of 12,000.00 MAD, i.e. a commission of 360 MAD per file. This represents 30% of the target.

*The files would come from two sources:*

- Direct sales from CDLM.

- Sales from the BCP network: 1 file per month for the 750 branches until the 3rd month of the first year. This rises to 1.5 files in the 4th month and 2 files until the 8th month. Production then stabilizes at 3 files per month for the 750 agencies until the 5th year (with a penetration rate of 82% of the target).

The average duration of each contract is 2 years.

*Commissions on sales are calculated on files brought in by CDLM. They represent 0.8% of monthly rents for the two segments:*

- P1, with an average monthly rent of MAD 7,000.00, commission is MAD 56 per file. It represents 70% of the target.

- P2 with an average monthly rent of MAD 12,000.00, commission is MAD 96 per file. This represents 30% of the target.

*Commissions paid by BCP on CDLM files transformed into mortgages.*

They represent 1% of the amount of the loan. The average loan is valued at 750,000 MAD.

Data presentation plays a crucial role in communicating the results of analysis in a clear and structured way. This is where Microsoft Excel comes into play with ChatGPT in its ability to format and structure information in such a way as to induce a clear understanding for stakeholders, promoting informed decision-making.

In addition, ChatGPT can simulate different economic scenarios and analyse their potential impact on financial projections, providing a more nuanced perspective for strategic planning. This is achieved primarily through the formulation of specific hypothesis as set out below:

**Revenue hypothesis to forecast the company's financial inflows over a five-year period.**

<b>Commission rate</b>	<b>3%</b>
<b>P1</b>	
- Average rent	7 000,00
- of target	70%
<b>P2</b>	
- Average rent	12 000,00
- of target	30%
<b>Production rate</b>	
<b>CDLM: # files / day</b>	
- Year 1	0
- Year 2 - S1	4
- Year 2 - S2	8
- Year 3 - S1	10
- Year 4 - S1	12
- Year 5	15
- days	20
<b>files / month / agency</b>	
- Year 1	1
- Year 2	1,5
- Year 3	2
- Year 4	2,5
- Year 5	3
- Agencies	750
- Penetration rate	81,48%

**Expenditure hypothesis required to forecast costs over five years.**

<b>Annual rate of change in expenses</b>	<b>3%</b>
<b>Three-year rate of change in expenses</b>	<b>10%</b>
<b>Communication budget as % of sales</b>	<b>4%</b>
<b>Attrition costs budget as % of turnover</b>	<b>2%</b>
<b>Number of days travelled</b>	<b>180</b>
<b>Cost per trip (fuel, accommodation and catering)</b>	<b>1 500,00</b>
<b>Monthly vehicle rental costs</b>	<b>5 000,00</b>
<b>Number of sales staff</b>	<b>3</b>

The role of Microsoft Excel in data modeling should be highlighted. Excel has made it possible to carry out statistical analyses and complex financial modeling, offering greater flexibility with macros and scripts based on its advanced calculation and manipulation capabilities, made possible by its powerful functions and formulas.

The hypothesis on revenues have been used to calculate company revenues by category.

	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>
File from CDLM	0	1 440	2 304	2765	3 600
File from BCP	8 861	11 000	14 666	18333	22 000
<b>Number of files</b>	<b>8 861</b>	<b>12 440</b>	<b>16 970</b>	<b>21 098</b>	<b>25 600</b>

**Income table**

	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>
Rental commissions	13 323 508	34 042 768	42 663 833	54 355 430	72 021 002
Commissions on sales	0	97 920	143 616	172 339	244 800
Commissions on real estate credit	0	1 080 000	1 584 000	1 900 800	2 700 000
MRH Commissions	1 772 190	2 487 960	3 111 240	3 867 930	5 119 920
	<b>15 095 698</b>	<b>37 708 648</b>	<b>47 502 689</b>	<b>60 296 499</b>	<b>80 085 722</b>

The hypothesis on charges collected are used to forecast the financial expenses of the companies.

***Operating expenses***

	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>
Water, electricity and other consumables	84 000,00	86 520,00	89 115,60	91 789,07	94 542,74
Insurance	6 490,00	8 855,00	10 131,50	11 260,50	12 448,50
Telephone and telecommunications	24 000,00	24 720,00	25 461,60	26 225,45	27 012,21
Rental of equipment / server space	10 000,00	10 300,00	10 609,00	10 927,27	11 255,09
Hosting of AI servers	900 000,00	900 000,00	900 000,00	900 000,00	900 000,00
Office rental (400 m2)	1 440 000,00	1 440 000,00	1 584 000,00	1 584 000,00	1 584 000,00
Vehicle hire	180 000,00	180 000,00	180 000,00	180 000,00	180 000,00
Trustee fees + Legal fees	200 000,00	250 000,00	250 000,00	250 000,00	250 000,00
Fees for IT services	780 000,00	780 000,00	780 000,00	780 000,00	780 000,00
Communications	603 827,91	1 508 345,91	1 900 107,57	2 411 859,98	3 203 428,86
Miscellaneous expenses	301 913,96	754 172,96	950 053,79	1 205 929,99	1 601 714,43
Travel	810 000,00	834 300,00	859 329,00	885 108,87	911 662,14
Taxes	163 470,00	170 565,00	188 794,50	192 181,50	195 745,50
<b>Total</b>	<b>5 503 701,87</b>	<b>6 947 778,87</b>	<b>7 727 602,56</b>	<b>8 529 282,62</b>	<b>9 751 809,47</b>

***Commissions to business introducers***

	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>
Number of CDLM files	0	1 440	2 112	2765	3 600
Average rents	8 500,00	8 500,00	8 500,00	8 500,00	8 500,00
Commission rate	5%	5%	5%	5%	5%
<b>Amount of commission</b>	<b>0</b>	<b>612 000,00</b>	<b>897 600,00</b>	<b>1 175 040,00</b>	<b>1 530 000,00</b>

**Conclusion and Discussions**

The analysis of data derived from budget calculations highlights several important elements. Firstly, regarding company revenues, it is observed that they are expected to grow continuously over the years with an average growth rate of approximately 28%. Rental commissions are the most

profitable, so companies should capitalize on this and continually seek to improve the rental conditions of assets.

Next, looking at the operating expenses table, it is noted that they remain rather stable over the years and align with the company's operating logic. Server hosting fees for AI (11% of revenue) and fees for IT service providers (9% of revenue) are the most significant expenses.

Concerning CAPEX, the company plans to make investments every year, which is characteristic of a desire to strengthen by improving the quality of IT services. Software will be the most expensive investment for the company, alongside office furniture.

Examining the level of working capital requirements, it is noted that it is positive and increases each season over the five years, indicating a solid capacity for the company to pay its debts. It manages to maintain liquidity resources over time, allowing it to engage in various operations without financial limitations.

The company's net profit increases over time, confirming the satisfactory performance expected, despite personnel costs being the highest of the company.

Finally, the company's cash flow will vary positively over the coming years, mainly due to cash flow from operating activities and investment operations. The company has not received capital from investors over the five years, thus reducing its dividend costs.

The companies analyzed previously possess a strategy well adapted to their economic context, considering the dynamism of their sector. As highlighted earlier, they have a major advantage aligned with the nature of their business: surplus liquidity. This continuous financial capacity grants these companies a significant edge in the market against their competitors.

It is noteworthy that their most significant source of revenue is the commission on rentals, which is certainly indicative of an economic environment marked by constant change. This raises questions about the long-term sustainability of the companies' profitability, particularly if the length of stays becomes shorter, leading to instability in rent payments and a decrease in rental commissions.

In such a scenario, the loyalty of BCP and CDLM's clients will likely depend on key factors of their value proposition. Elements such as the quality of service, identification of specific client preferences, or targeted offers based on tenure will undoubtedly be decisive factors in this psychological confrontation.

In his book "Guide pratique de l'immobilier", Le Fur (2020) suggests some interesting measures for attracting and retaining rental customers, such as installing cutting-edge technologies like home automation, advanced security systems or high-performance telecommunications infrastructures, investing in high-quality customer service and offering flexible rental terms.

The objectives of this study were to provide an update on research regarding generative artificial intelligence and management control, establish BPs and company budgets, and reconcile the functions of management control with artificial intelligence.

The results of this study are the production of business plan and company budgets based on hypotheses generated during the desk research and generative AI with ChatGPT-4 and suggest that while ChatGPT is time effective in terms of market research and data analysis and presentation, there is room for improvement in terms of data modeling in comparison with Microsoft Excel. These results present one of the ways in which generative AI can be used in a company's management control system, highlighting its benefits.

Looking forward, considering the developments within this research regarding the implementation of AI in management control, it would be interesting to explore to what extent the excessive use of AI within organizations might pose a threat to contemporary society.

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## Appendices:

### Forecast income statement

Months of operation in the first year	6
Cash credit interest rate	5%

	Year 1	Year 2	Year 3	Year 4	Year 5
<b>Sales</b>	<b>8 433 944</b>	<b>37 708 648</b>	<b>47 502 689</b>	<b>60 296 499</b>	<b>80 085 722</b>
Rental Commissions	6 661 754	34 042 768	42 663 833	54 355 430	72 021 002
Sales commissions		97 920	143 616	172 339	244 800
Commissions on real estate credit		1 080 000	1 584 000	1 900 800	2 700 000
MRH commissions	1 772 190	2 487 960	3 111 240	3 867 930	5 119 920
<b>Operating expenses</b>	<b>11 513 302</b>	<b>13 743 284</b>	<b>14 987 830</b>	<b>16 251 446</b>	<b>18 018 964</b>
Premises expenses	1 717 960	1 730 660	1 897 503	1 905 457	1 913 749
Commercial and communication expenses	1 593 828	2 522 646	2 939 437	3 476 969	4 295 091
Commissions to business introducers		612 000	897 600	1 175 040	1 530 000
IT and consultancy costs	1 890 000	1 940 300	1 940 609	1 940 927	1 941 255
Miscellaneous expenses	301 914	754 173	950 054	1 205 930	1 601 714
Staff costs	6 009 600	6 183 505	6 362 628	6 547 124	6 737 154
<b>EBITDA</b>	<b>-3 079 358</b>	<b>23 965 364</b>	<b>32 514 859</b>	<b>44 045 053</b>	<b>62 066 758</b>
Operating expenses	1 298 000	1 771 000	2 026 300	2 252 100	2 489 700
<b>EBIT</b>	<b>-4 377 358</b>	<b>22 194 364</b>	<b>30 488 559</b>	<b>41 792 953</b>	<b>59 577 058</b>
<b>Net financial expense</b>		-134 397			
<b>Non-current result</b>					
<b>Profit before tax</b>	<b>-4 377 358</b>	<b>22 059 967</b>	<b>30 488 559</b>	<b>41 792 953</b>	<b>59 577 058</b>
Solidarity contribution		265 239	1 067 100	1 462 753	2 085 197
Income tax		4 509 065	6 936 147	8 358 591	11 915 412
<b>Net profit for the year</b>	<b>-4 377 358</b>	<b>17 285 662</b>	<b>22 485 312</b>	<b>31 971 609</b>	<b>45 576 449</b>

### Working capital requirement (WCR)

Customer credit period in days of turnover including VAT	30
Supplier credit duration in days of expenses including VAT	60
VAT rate	20%

	Year 1	Year 2	Year 3	Year 4	Year 5
Sales incl. VAT	18 114 837	45 250 377	57 003 227	72 355 799	96 102 866
Purchases and external charges	6 408 278	8 132 657	9 046 570	10 004 521	11 467 277
Commissions to suppliers (incl. VAT)	0	734 400	1 077 120	1 410 048	1 836 000
Trade receivables	1 509 570	3 770 865	4 750 269	6 029 650	8 008 572
Trade payables	1 068 046	1 477 843	1 687 282	1 902 428	2 217 213
<b>Working capital requirement</b>	<b>441 523</b>	<b>2 293 022</b>	<b>3 062 987</b>	<b>4 127 222</b>	<b>5 791 359</b>

### CAPEX

#### *Gross fixed assets*

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Office layout	3 600 000,00	3 600 000,00	3 600 000,00	3 600 000,00	3 600 000,00	3 600 000,00
Patents + certification + authorisations + contracts	300 000,00	370 000,00	440 000,00	510 000,00	580 000,00	580 000,00
Software	2 000 000,00	4 000 000,00	5 000 000,00	6 000 000,00	7 000 000,00	7 000 000,00
Hardware	190 000,00	285 000,00	351 500,00	370 500,00	408 500,00	408 500,00
Office furniture	400 000,00	600 000,00	740 000,00	780 000,00	860 000,00	860 000,00
<b>Office layout</b>	<b>6 490 000,00</b>	<b>8 855 000,00</b>	<b>10 131 500,00</b>	<b>11 260 500,00</b>	<b>12 448 500,00</b>	<b>12 448 500,00</b>

#### *Investments*

	Year 0	Year 1	Year 2	Year 3	Year 4
Office layout	3 600 000,00				
Patents + certification + authorisations + contracts	300 000,00	70 000,00	70 000,00	70 000,00	70 000,00
Software	2 000 000,00	2 000 000,00	1 000 000,00	1 000 000,00	1 000 000,00
Hardware	190 000,00	95 000,00	66 500,00	19 000,00	38 000,00
Office furniture	400 000,00	200 000,00	140 000,00	40 000,00	80 000,00
<b>Investissements par an</b>	<b>6 490 000,00</b>	<b>2 365 000,00</b>	<b>1 276 500,00</b>	<b>1 129 000,00</b>	<b>1 188 000,00</b>

#### *Depreciation*

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9
Investment year 1	1 298 000,00	1 298 000,00	1 298 000,00	1 298 000,00	1 298 000,00				
Investment year 2		473 000,00	473 000,00	473 000,00	473 000,00	473 000,00			
Investment year 3			255 300,00	255 300,00	255 300,00	255 300,00	255 300,00		
Investment year 4				225 800,00	225 800,00	225 800,00	225 800,00	225 800,00	
Investment year 5					237 600,00	237 600,00	237 600,00	237 600,00	237 600,00
<b>Total depreciation</b>	<b>1 298 000,00</b>	<b>1 771 000,00</b>	<b>2 026 300,00</b>	<b>2 252 100,00</b>	<b>2 489 700,00</b>	<b>1 191 700,00</b>	<b>718 700,00</b>	<b>463 400,00</b>	<b>237 600,00</b>

***Accumulated depreciation***

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9
Investment year 1	1 298 000,00	2 596 000,00	3 894 000,00	5 192 000,00	6 490 000,00				
Investment year 2		473 000,00	946 000,00	1 419 000,00	1 892 000,00	2 365 000,00			
Investment year 3			255 300,00	510 600,00	765 900,00	1 021 200,00	1 276 500,00		
Investment year 4				225 800,00	451 600,00	677 400,00	903 200,00	1 129 000,00	
Investment year 5					237 600,00	475 200,00	712 800,00	950 400,00	1 188 000,00
<b>Total accumulated depreciation</b>	<b>1 298 000,00</b>	<b>3 069 000,00</b>	<b>5 095 300,00</b>	<b>7 347 400,00</b>	<b>9 837 100,00</b>	<b>4 538 800,00</b>	<b>2 892 500,00</b>	<b>2 079 400,00</b>	<b>1 188 000,00</b>

***Net fixed assets***

	Year 1	Year 2	Year 3	Year 4	Year 5
<b>Net fixed assets</b>	5 192 000,00	5 786 000,00	5 036 200,00	3 913 100,00	2 611 400,00

**Cash flow statement**

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Net profit		-4 377 358	17 285 662	22 485 312	31 971 609	45 576 449
+ Depreciation and amortisation		1 298 000	1 771 000	2 026 300	2 252 100	2 489 700
<b>= Operating cash flow</b>		<b>-3 079 358</b>	<b>19 056 662</b>	<b>24 511 612</b>	<b>34 223 709</b>	<b>48 066 149</b>
Acquisition of fixed assets	6 490 000	2 365 000	1 276 500	1 129 000	1 188 000	0
Change in WCR		441 523	1 851 499	769 965	1 064 234	1 664 138
<b>= Cash flow from investing activities</b>	<b>6 490 000</b>	<b>2 806 523</b>	<b>3 127 999</b>	<b>1 898 965</b>	<b>2 252 234</b>	<b>1 664 138</b>
Change in debt						
+ Increase in equity	7 000 000					
- Dividend payments						
<b>= Cash flow from financing activities</b>	<b>7 000 000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Change in cash and cash equivalents</b>	<b>510 000</b>	<b>-5 885 881</b>	<b>15 928 664</b>	<b>22 612 647</b>	<b>31 971 475</b>	<b>46 402 011</b>
Opening cash position		510 000	-5 375 881	10 552 782	33 165 429	65 136 904
Cash and cash equivalents at end of period	510 000	-5 375 881	10 552 782	33 165 429	65 136 904	111 538 916
<b>Change in cash and cash equivalents</b>	<b>510 000</b>	<b>-5 885 881</b>	<b>15 928 664</b>	<b>22 612 647</b>	<b>31 971 475</b>	<b>46 402 011</b>