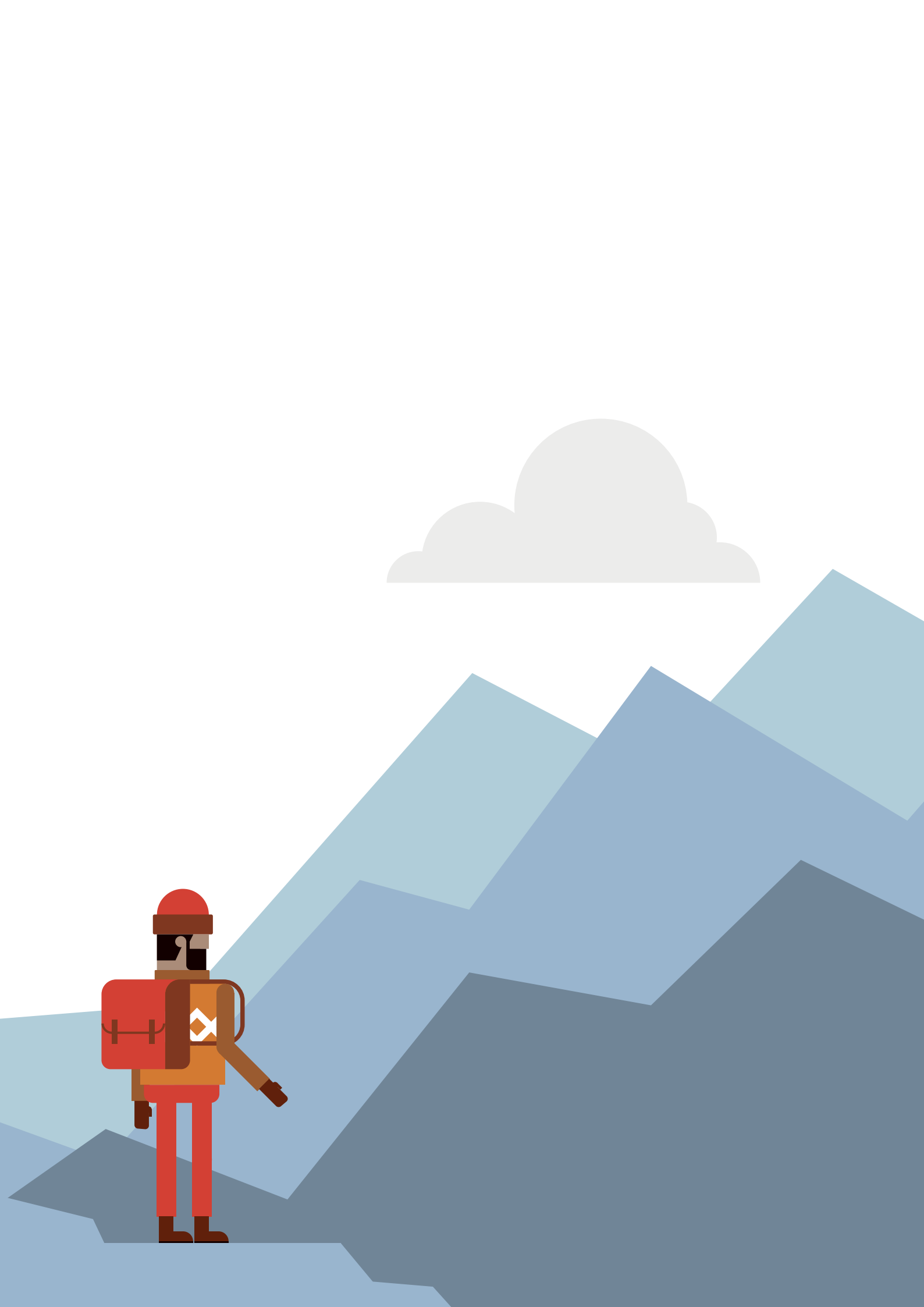# 4 REASONS WHY YOU CAN'T DO WITHOUT **DATA VISUALIZATION** ANY LONGER
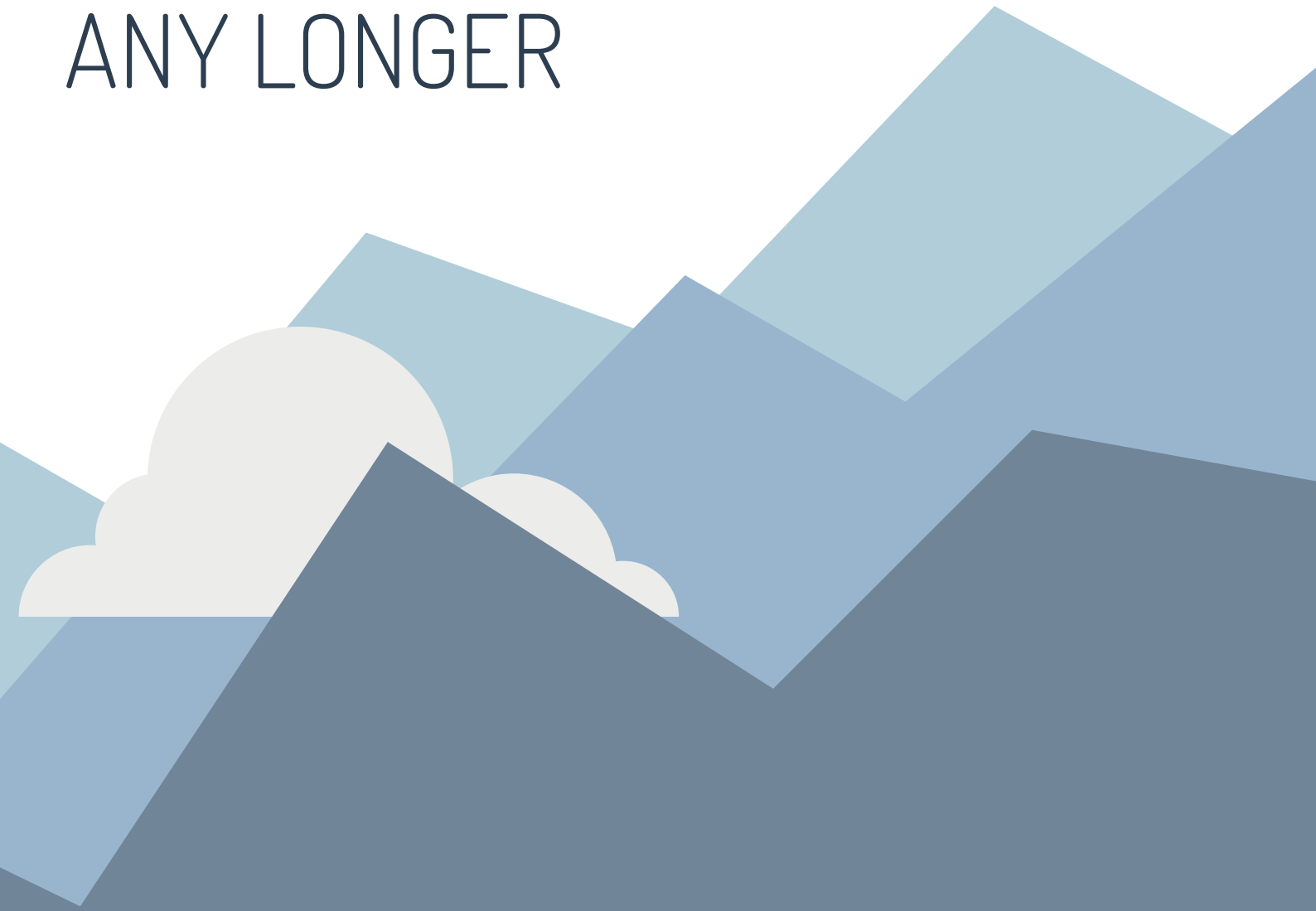
4 REASONS WHY YOU CAN'T DO WITHOUT DATA VISUALIZATION ANY LONGER

§sas | THE POWER TO KNOW.

TABLE OF CONTENTS

300,00+
215,34+
138,70-
56,90+
44,52-
188,63-

SIMPLICITY IN THE ERA OF BIG DATA

Terms such as Big Data and Internet of Things, unknown to most just a few years ago, are now commonly used not only by top managers and entrepreneurs, but also by the wider corporate pyramid.

We are often surprised by how things change at a speed which surpasses our ability to learn and to understand. And just as often, corporate dynamics and the context within which we move appear too complicated, too costly, too complex. All too much.

The paradox is that, bang in the middle of the "big data" era, what we need most is to have less. We desperately need things to be simple and instantaneous.
Something that is immediately comprehensible.
Anyone working in a company knows that very well.
We certainly don't need more information, but we do need more useful, better quality information. At the right time.

Data analysis and Business Analytics solutions couldn't just stand twiddling their thumbs facing a changing context, which has already changed.

Science has provided an answer called Data Visualization. A concept which combines the study of the human behavior and perception, compared to company choices, which are crucial for business today and tomorrow.

Data Visualization is a set of techniques, which allows everyone in the company who requires useful information for his own business to obtain immediate value from data both inside and outside the company.
This is all due to a new method of data visualization and exploration.

Data Visualization allows the company to:
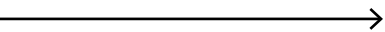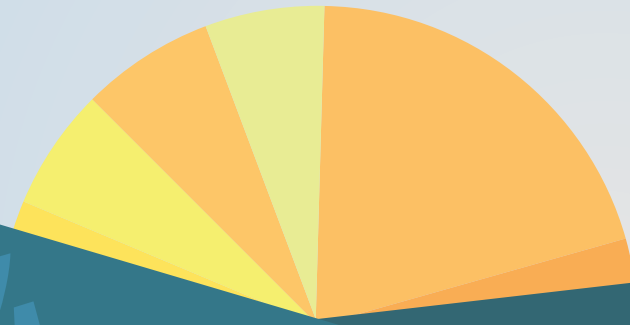
KNOW

↓

DECIDE

↓

FORECAST

↓

SHARE

↓

INNOVATE

01.

DATA VISUALIZATION: WHAT IT IS AND WHAT IT IS USED FOR

Data Visualization can be defined as the visual/interactive exploration and the graphic representation of data of any size (small and big data), nature and origin. Concisely, it enables phenomena and trends, which seem invisible at a first analysis, to be identified.

Data Visualization is not an end. On the contrary, it's an extraordinary means to understand phenomena, suggest different viewpoints and interpretations of business dynamics and situations, thanks to the crossover between variables and data.

There are numerous sectors and company divisions in which Data Visualization can provide significant advantages to the business.
They range from finance to consumer goods, from services to manufacturing, from marketing to scientific research, from public services to telephony, and even to transport and logistics/geolocation, passing by utilities.

Data Visualization can be applied in four different ways:

To analyze data, in order to create and share univocal, valid reports;

To explore data, even by non-IT experts;

To optimise corporate processes;

To make analytical forecasts, in order to identify and anticipate future trends.

It can count on three principal drivers:

1. **Visual:** data are represented in a graphic/visual format, which can be changed and personalized by the user.

2. **Insight:** Data Visualization, while enabling data to be understood immediately, also provides advice and suggestions on the possible actions the manager may take.

3. **Sharing:** thanks to an immediate understanding of data and analysis, reports can be shared rapidly across the company. With a consequent, positive effect on decision making processes.

| Because a graph says **more** than just plain data.

Data Visualization uses a "sexy" graphic approach to describe quantitative and qualitative information. In some cases, they are unstructured data from social media, sentiment analysis, transactional data and more. The analysis approaches data as closely as possible to diminish process and elaboration times to just a few seconds.
Thus, managers and business deciders have instant access to the data and the opportunity of using advanced analytics, without the complexity of data structures.

Why it is fundamental to exploit Big Data

Big Data can be described as collections of large volumes of data. So large and so complex that it would be difficult to process and analyze them using normal processes and programs of investigation/analysis.
They feature three factors:

Volume

**Variety**

Speed

To which we can add:

Variability

Complexity

Big Data can be managed using Business Intelligence tools. However, these don't always make data perfectly intelligible. This is where Data Visualization comes in and simplifies understanding to generate true value for the business.

The advantages of Data Visualization: over to the users

Here are the main benefits given by those interviewed during a survey conducted by IDG.
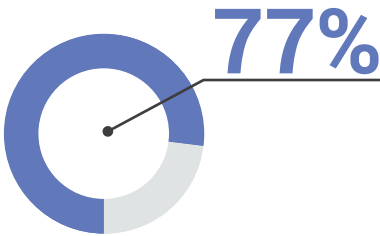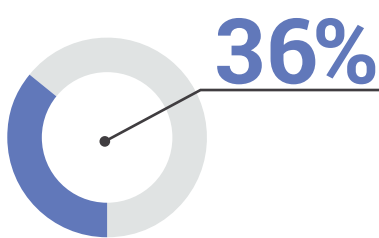
77% Optimization of the decisional process
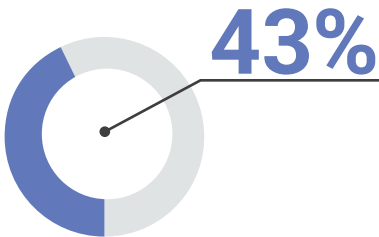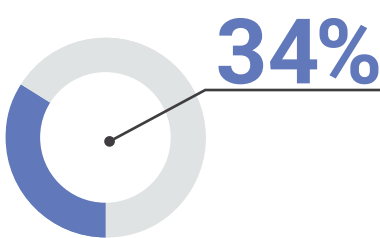
43% Speed and reliability of ad hoc analyses
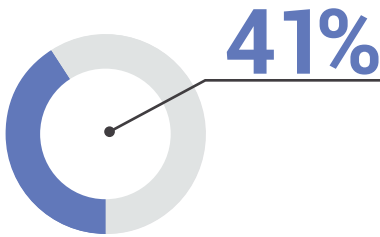
41% More collaboration and sharing of information

36% More self-service functions for the end users

34% Increase in ROI
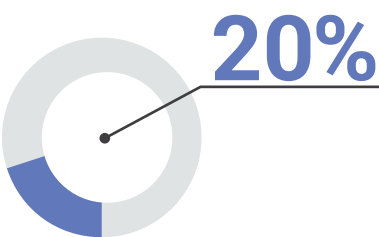
20% Time saving
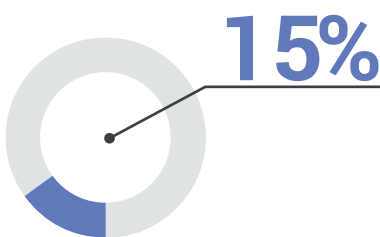
15% Less pressure on IT

SOURCE: IDG RESEARCH SERVICES

02.
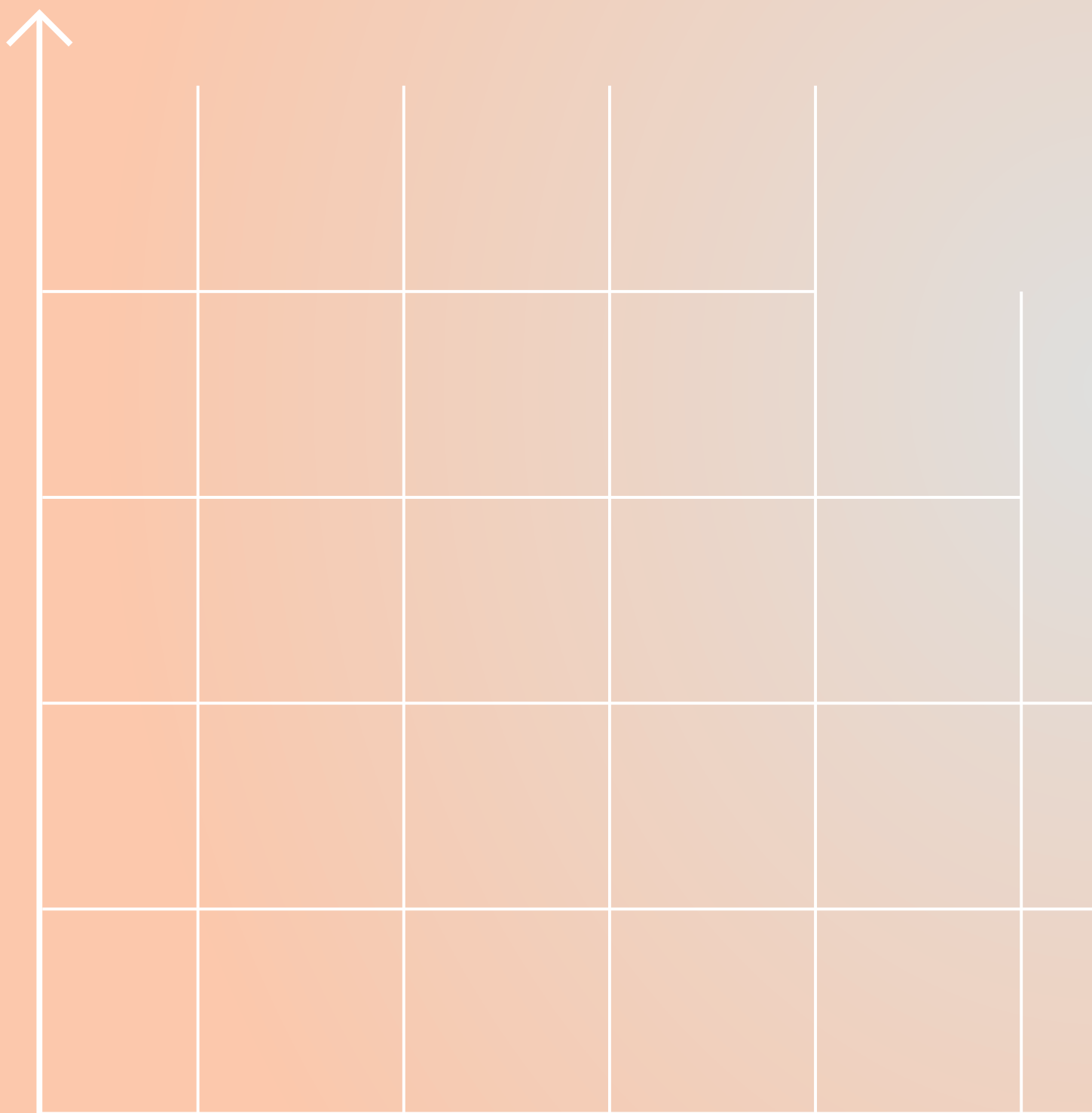
WHY OUR BRAIN NEEDS DATA VISUALIZATION

Our brain doesn't work like a calculator and is unable, for example, to parallel process the thousands of data generated in a company.

This means that entrepreneurs and managers are making fundamental decisions for the business every day without knowing all the information hidden among the company data.

Only thanks to visualization, the brain can process, absorb and interpret simultaneously large amounts of information.

This is the reason why Data Visualization was created: to explore and analyze data visually, and have an overview of the business, which can be studied in depth only when required. Thus, users lacking the technical knowledge can use the data intuitively and rapidly, whereas more experienced users can explore the variables with the highest level of granularity, using slice & dice techniques.

Data Visualization rethinks the entire paradigm
of the analysis and lingers not only on what has been,
but also on what will be.
By moving from tables to dynamic, interactive graphs,
the human brain is able to acquire an overall view of
the phenomena.
Furthermore, understanding at a glance allows
you to fill decisional gaps, which often exist between
different areas of business, and to save time and
human resources who were previously forced to
examine millions of rows without gaining any real
knowledge of the variables at stake.

Month after month, the flow of corporate data will
continue to skyrocket. Time and resources to interpret
them will be continually on the decrease and Data
Visualization will become one of the few tools able
to help us win these challenges. In mobility too.
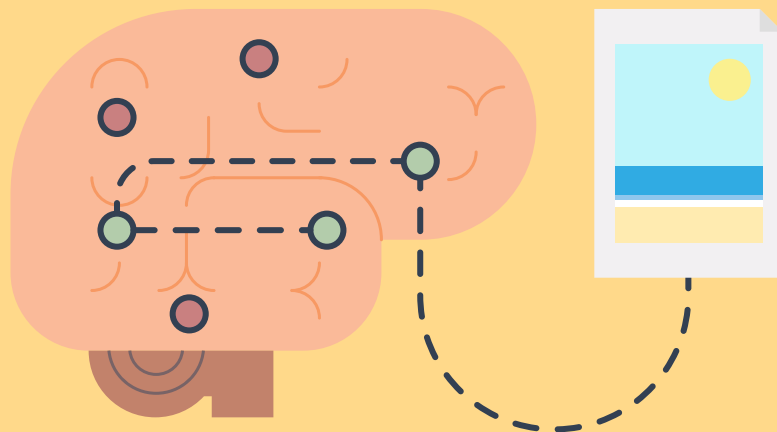
03.

4 REASONS WHY DATA VISUALIZATION IS ESSENTIAL FOR SMEs AND MAJOR COMPANIES

Today more than ever, Data Visualization represents a simple, intuitive approach to interpret data and make business decisions quickly.

We can summarize in 4 points the reasons why adopting a Data Visualization approach can improve our way of doing business and reduce the risks related to the job.

1
2
3
4

Data Visualization allows you to forecast market trends and obtain useful guidelines to develop your own business.

Data Visualization enables managers and entrepreneurs to spot the trends in their own market and sector, using reliable forecasts based on the collection of corporate and general scenario data.

Specific insights will provide competitive advantages and the opportunity to differentiate yourself on your own reference market. Understanding the dynamics of your own business and the logic behind it is a fundamental step towards long-term success.

1
2
3
4

Data Visualization allows you to know the dynamics of your market as never before.

The advantages of Data Visualization have a positive effect on an "intelligent" reading of the reference market. You can, therefore, map your overall position compared to the sector trend, rather than simply compare just a few features of your business (price, income or profits).

On the one hand, the insights allow you to define more clearly the most appreciated features of your products and to be able to plan your development as a consequence. On the other hand, you can increase your income, by combining information on sales with information on consumers' preferences.

1
2
3
4

Data Visualization allows you to know the needs of each customer and to act accordingly.

Data Visualization becomes key to sales & marketing activities. Having the opportunity to trace and get a better understanding of the business flows of your communication channels with the customers gradually leads to more effective sales actions.

For example, it is possible to explore and analyze the data coming from each customer touchpoint: a physical store location, counter, call center, web site, e-commerce and social media.
This information is and can be integrated with CRM systems you already have in your company and can give you details of each individual customer.

1
2
3
4

Data Visualization allows you to make the right decisions at the right time. And to rapidly share information.

Managers and entrepreneurs can access information, which is easy to understand and share. Company KPIs are constantly under control. Information from a variety of internal and external sources is channeled into a single, shared source of information.

We are not talking about pre-constructed, standardized visualization. This is an explicit representation of the analyzed data in a simple format that can be shared. Nowadays, we often hear about "**data driven innovation**", regarding the ability to use information taken from data in order to innovate processes, services and products.

04.
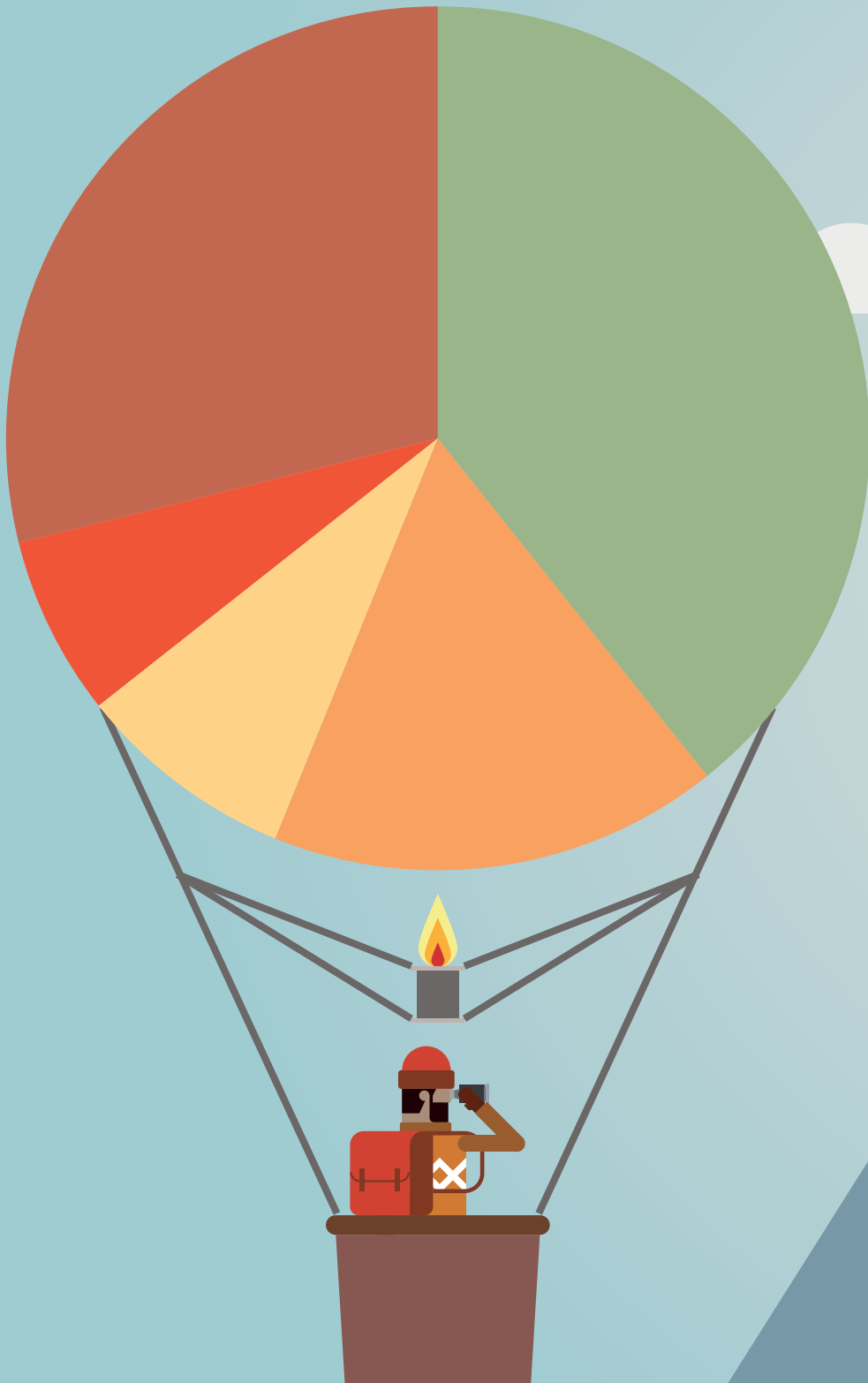
VISUAL ANALYTICS:
DATA DRIVEN DECISIONS
TO MAKE BUSINESSES GROW

Managers and entrepreneurs have to move their businesses forward in the right direction as never before, using reliable data and digging deep into the ever-increasing mass of data to find useful, vital information for their own business. Permanent change is the norm.

SAS Visual Analytics is created to support whoever has to make the best business decisions, as quickly as possible. Based on reliable data.
The solution combines the power of **high-performance** analytics and **in-memory** technology, with the simplicity of a user-friendly, sexy and intuitive interface.

High-performance analytics and in-memory technology, two apparently difficult concepts behind which all the innovation and power of this solution is hiding. Visualization makes sense only if a software exists "underneath", able of analyzing millions of structured and unstructured data.

The solution can be used also from a mobile device and allows the user (who doesn't necessarily have any analytical-technical skills) to monitor daily the key elements of the business and to see and anticipate the emerging markets trends.

More analytical power
in a sexy interface

SAS Visual Analytics marks a turning point in the world of analysis because it enables you to prepare, explore and model multiple business scenarios, by using the entire bulk of the data available and not just samples or clusters. This means you can use it effectively in a wide range of company departments: from marketing to sales, from admin to IT, from Human Resources to Risk Assessment.

The solution allows you to analyze billions of rows in a handful of seconds and produce an attractive and simple presentation of the results.
Data and information can even be used on the move.

Below, you can discover the success stories of SAS Visual Analytics users.
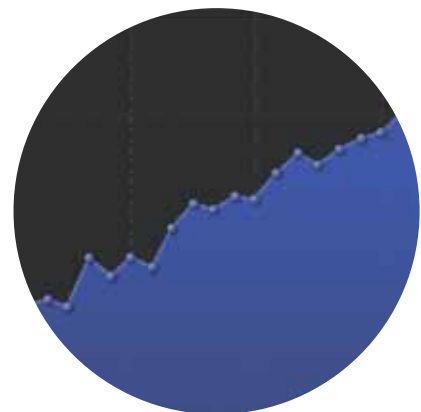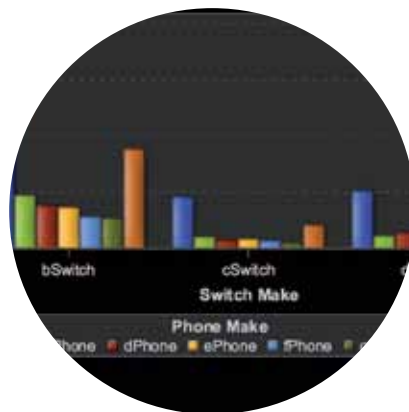
Who uses SAS Visual Analytics?
The companies, the success stories

Let's discover the stories of companies and organisations from different sectors, of different sizes and with different strategies which successfully use SAS Visual Analytics to achieve their objectives and visualize their business.
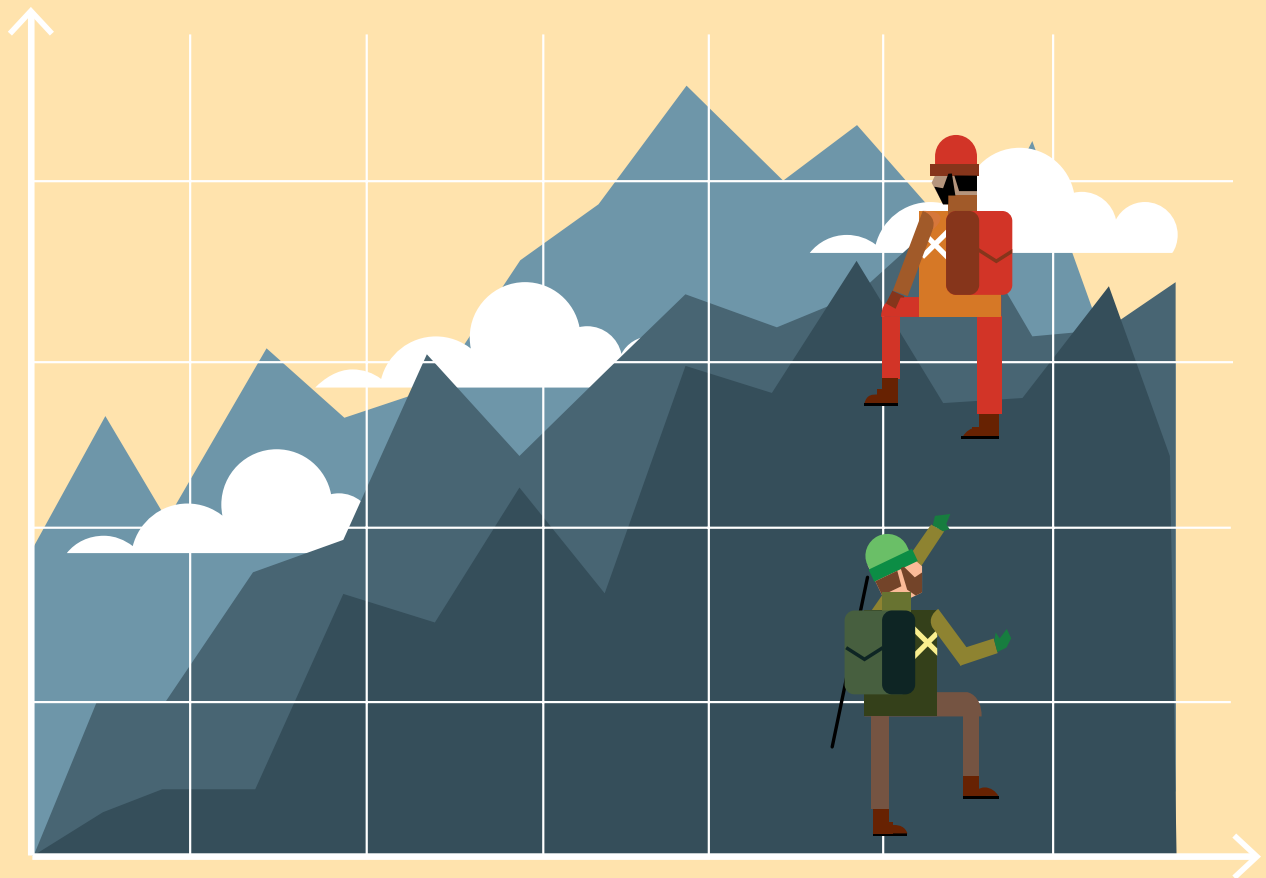
Investigate security events through new eyes to block cyber attacks

The main task of Security Lab is to acquire and develop the necessary know-how to face with the current challenges of cyber security, referring to the understanding of risk scenarios and the identification of the most suitable technologies to combat emerging threats.

Stefano Brusotti, Manager of Security Lab, Telecom Italia Information Technology, explains that: *"Our Security Lab plays a fundamental role in Telecom Italia's proactive strategy: to identify emerging trends at the very earliest and anticipate the signs of threats, in order to prepare the most suitable counter-measures according to the type and extent of the attack.*
The underlying theme is to reveal unknown phenomena, trends undergoing consolidation and indications as to future evolutions from the mass of Big Data.
This is where the project, which made us invest in the SAS Data Visualization solution, becomes so valuable and enables us to complement the traditional logic of analysis. Above all, it enables our analysts to investigate from a different perspective the information collected, in order to discover new correlations, identify unknown phenomena and code them, so traditional security tools can recognize them.
SAS Visual Analytics enables us to detect cleverly forged packages to trigger certain *attacks and to discover suitable configuration thresholds and parameters to block them within minutes."*

Excellence in operations and strategic planning

With almost half a million arrivals and departures and 50 million passengers every year, the international airport in Frankfurt is one of the major, most dynamic hubs in the world, as shown by the constant increase in traffic.

The heart and driving force behind the success is the intensive use of SAS technology for information, which has been helping the management for years to control the complex variations in the business.
The migration of this analytical environment towards High-Performance Analytics and Data Visualization represents an evolution, which is, in some ways, both natural and mandatory.
The greatest challenge is, in fact, to analyze in real time unforeseen events and complex situations, which affect all the operations at the airport and require a rapid response within a short amount of time.

Data Visualization plays a major role in this picture. The ability to analyze in real time enormous quantities of data from ongoing activities, to visually identify correlations and anomalies and to test alternative scenarios, not only optimizes the operative performance, but also the strategic planning of the activities.

According to Dieter Steinmann, Business Systems Senior Manager: *"The new features of exploration and visualization enable us to easily analyze enormous quantities of data in real time and to view the performance of the entire airport in detail as never before."*

Crucial customer information available for customer service

Improve customer service and product performance thanks to an accurate, rapid view of crucial customer information.
This is the objective of the Greek branch of Generali Hellas, an international holding among the top players in the European insurance market.
To simply and rapidly capitalize on big data coming from the most varied sources (Web interactions, call center, text documents, internal and external systems), Generali chose SAS Visual Analytics.
Generali chose SAS Visual Analytics that, as the IT Manager at Generali Greece Dionisis Moschonas confirms, allows managers to analyze enormous amounts of data in the shortest time, without any help from the IT department.
Thanks to its simple, graphic interface, managers are able to monitor the critical factors of the business daily and promptly spot the emerging tendencies.
This has a positive influence on the rapidity and reliability of the decision-making process.
*"In fact, SAS Data Visualization is used intensively in a wide range of company departments, especially in ratemaking, to monitor the performance of portfolio products, in accounting, to optimise the billing processes, and in customer services, to improve call center performance.
With SAS,"* Dionisis Moschonas concludes

*"data holds no more secrets for us.
We can analyze billions of lines in a handful of seconds and produce a presentation of the results with a strong impact whenever and wherever, via the Web and tablets."*

High definition viewing of product performance and customer characteristics

The greatest challenge for those working in mass retailing as Auchan, is to successfully react to competitor's strong promotional pressure. This means paying almost spasmodic attention to identify the right price for products and prepare an offer, which increasingly meets the needs and preferences of customers visiting every individual store.

Edoardo Loasses, Client Marketing Manager of Auchan and Mathieu Escarpit, CEO of Oney say: *"The need is to extract the truly significant information from a mass of raw data and make it easy to understand in a brief presentation. In this sense, the SAS solution of Data Visualization is a fundamental tool for us to accelerate data processing and analysis and, above all, to allow directors to be independent in their examination of the factors influencing the business. Given the correct information, the store manager has all the cards in hand to programme the most opportune interventions. Let's take the example of newly acquired customers. If, as often happens, their favorite time to purchase is Sunday afternoon and the commodity area is non-food related, the manager can, for example, increase the number of staff, reorganize the store layout, strengthen the offer in the non-food sector or modify the displays.*

In a few words, he can take the best measures to improve the customer's shopping experience."

Political tweet:
news moves fast

Highlight how political groups use Twitter to influence public opinion. This was the objective of CRISP, an interdisciplinary academic network aiming to carry out high profile research and studies on the service sector. In order to do this, they used SAS Visual Analytics.

Mario Mezzanzanica, Scientific Director of CRISP - University of Milan-Bicocca states: *"SAS supported us throughout the entire data processing cycle: from crawling to collect information, to text mining to identify the key words; from sentiment analysis to build the semantic maps, to SAS Visual Analytics to present and navigate the results. A support never once stopped throughout the entire project cycle. SAS Visual Analytics, in particular, has enabled us to drastically reduce times of results viewing and questioning. Also, it has guaranteed an automatic update of the information, even on mobile devices."*

Analyze large volumes of data in real time

ZapFi is a Belgian operator offering retail companies a free Wi-Fi network to allow their customers to access the web and receive specific messages and information on their mobile devices in real time. The heart of ZapFi's analysis lies in SAS Visual Analytics, which analyzes the data generated by ZapFi's users profiles and by their online activities. The result is a powerful tool, consisting of decisional reports, segmented data and tableau de bord, which allows the company to effectively target the public with marketing campaigns via mobile, sending pertinent, useful messages through the ZapFi advertising platform. *"Thanks to SAS,* says Gery Pollet, Founder and Chief Executive Officer of ZapFi, *and to its analytical technology, which is amongst the most advanced on the market, we are capable of analyzing large volumes of data in real time, of graphically evaluating the results and of rapidly addressing messages linked to specific consumer profiles."*

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