

Committed to our clients

Consistently exceeding the expectations of our clients is instrumental to building our leadership position in the business consulting industry.



>900
global and
local clients



100
of which
are new



>40
countries in
which we operate





Client focus

The client is the reason we are in business and is our main management priority

Our success is due to our clear focus on the client, with whom we work closely with and whose expectations we strive to exceed in order to become a trusted partner. We implement a client relationship model that allows us to know each client's specific needs and to be in a position to offer each client a differentiated value proposition.

Management Solutions provides value-added services that stand out for the durability of results and practicality of implementation.

Client diversification

Management Solutions pursues sustained growth supported by client diversification, seeking a balance between large multinationals and national leaders. At year end, Management Solutions had over 900 active clients (100 of them acquired in 2019), grouped into three major segments: multinationals of American or European origin, local entities, and national or regional confederations, which are all leading organizations in their respective markets.

In addition, Management Solutions has continued to strengthen links with regulators (central banks, international organizations, national regulators and supervisors, etc.) in the main industries in which we operate.

Global model

Management Solutions has a strong presence in local markets, but always under the umbrella of global corporate policies. The whole Management Solutions group operates as a single unit rather than an association of local firms under one brand.

Acting and feeling as part of a team, sharing the Firm's mission, goals, culture and values, are essential to successfully meet our clients' transformation processes and strategic challenges, wherever they arise.



As a professional services firm, our mission is to develop solutions that help our clients to fulfill their objectives as effectively as possible. We are firmly committed to offering services of the utmost quality, as this is the underlying motive of all our actions and the driving force behind our growth.

For this reason, all of our internal processes are subject to strict quality rules in the belief that, with the support of our highly conscientious professionals, they will facilitate the achievement of this fundamental aim. This level of quality is based on the expertise of our professionals, for whom there are ongoing training and refresher plans, and on the direct and active participation of more experienced staff on each project.

Quality control methodology

The main aim of our quality system is to guarantee that every job meets the levels of quality, value and service expected by the client. Accordingly, as a minimum, we must ensure that:

- ▶ There is coherence and consistency between the job to be done and the final product, both being clearly documented.
- ▶ The necessary knowledge and experience have been applied.
- ▶ The specified work has been competently carried out and correctly documented.
- ▶ The final products satisfy the specific requirements and are produced within the agreed upon time frame.

Each project is broken down into different activity stages or groups of activities.

The activities to be performed, their order and required techniques are detailed for each project stage while the resulting deliverables and roles involved in their production are also specified.

We perform quality control from beginning to end on all projects in order to guarantee quality levels both internally and externally (services provided to clients).

Management Solutions has a Quality and Internal Audit Area whose aim is to strengthen the Firm's control framework and to ensure it complies with regulatory requirements (certifications, audits, etc.).

This area is global in scope and covers functions related to business activities as well as provides support to our professionals across the Firm's units. They are responsible for the following:

- ▶ Corporate policies.
- ▶ Quality (certifications from quality assurance agencies, Quality Assurance process, etc.).
- ▶ Criminal risk management and proposal contract clauses.
- ▶ Internal audit.

ISO 9001 quality certification

The Spanish Association for Standardization and Certification (AENOR) acknowledges that Management Solutions' management system is compliant with the ISO 9001 standard for business consulting activities and related technologies.

UNE-EN ISO 9001 certification shows that the management system implemented in the Firm meets the highest quality standards, ensuring resource availability, process control and continuous improvement in the provision of services.

Providing top quality service is at the core of our business

Quality Control Methodology

Activities

- ▶ Project scope review
- ▶ Definition of review milestones
- ▶ Design review
- ▶ Intermediate review
- ▶ Final review
- ▶ Project file

Deliverables

- ▶ Review plan
- ▶ Review reports
- ▶ Design/intermediate review reports (for internal use)
- ▶ Final analysis
- ▶ Final report
 - Proposal accepted by quality control
 - Document of acceptance from client
 - Authorized quality control documents
 - Finance and billing structure
 - Project plan with assigned responsibilities for each task
 - List of deliverables
 - Client satisfaction survey

Commitment to the industry

We share the expert knowledge generated by the Firm

In addition to conducting specific conferences on relevant topics of interest related to the Firm's areas of operation, we have an ongoing schedule of external knowledge sharing activities, some of the most significant being our publications and our presence in professional forums.

Publication of studies and industry reports

From Agile Delivery, to an Agile Organization

This white paper released by Management Solutions in 2019 provides insight into the main implications and challenges faced by organizations that adopt Agile methodologies.

"The only constant is change". The concept embodied in this phrase, credited to the Greek philosopher Heraclitus, has been particularly prevalent to many organizations' strategy of creating an adaptable business model, i.e. a model that allows businesses to adapt to ever-changing circumstances and stay

ahead of the competition. In the context of large organizations, this adaptability has generally been determined by their ability to change: change strategy, change processes, change products, etc.

While the principle of constant change has been generally accepted since the aforementioned phrase was first coined some 2.5 thousand years ago, over the past century the increased prevalence of another concept has been witnessed which, even though not novel, had remained fairly unexplored in the past. This is the idea that the pace of change also needs to be factored in. It is widely recognised that the rate at which variables change in today's world is both unprecedented and continuously increasing (accelerated change). As such, it is not only the ability of organizations to change that comes into question, but also the extent to which they can do so at a fast-enough pace.

Large organizations have traditionally employed various methodologies in order to deliver change, mostly involving a series of sequential steps (from ideation to delivery), performed by different teams. However, the previously mentioned pace of change is encouraging organizations to explore alternative methodologies, where change delivery is broken down into smaller components and managed by multifunctional teams.

Many factors have led organizations to seek a new way of working in order to keep up with today's accelerated pace of change, brought about by phenomena such as the exponential increase in connectivity, the global spread of mobiles, the widespread adoption of social networks, etc.

The need of organizations to increase the pace at which they deliver change is multifaceted, and are evident by multiple occurrences on a global scale, such as the rapidly changing economic environment, technological advances that are disrupting entire industries, and increased political uncertainty.



The main factors underlying this trend include:

Emergence of disruptive technologies

Innovation and speed to market are two of the key requirements to capture and retain clients. New technologies such as Data Analytics, Artificial Intelligence and the Internet of Things are enabling companies to develop state-of-the-art products and services, bring them to the market before their peers, and learn from their errors when they fail. Organizations that embrace digitalization are building resilient and flexible processes that enable them to quickly reallocate critical resources to adapt to the evolving needs of the customers. This trend goes beyond IT businesses, as more and more companies across all industries are introducing these new technologies into their operating models. In addition, the emergence of digital leaders such as Google, Apple and Amazon, or new digitally native business models such as Spotify and Uber, has reshaped customer relationships and customer expectations around quality of product, quality of service and accessibility, enabling these companies to achieve better results while being more efficient, and increasing market share.

Increased political uncertainty

The recent financial crisis, in addition to some other circumstances, have disrupted the global political framework. The rise of national extremism, coupled with various political events such as the planned exit of the UK from the European Union, have impacted international trade, while at the same time, increased overall uncertainty over the future state of global business. As a result, organizations are decreasingly able to plan for the long run.

Changed competitive landscape

The global competitive environment is rapidly changing. Fueled by factors such as globalization, easier access to information, and low barriers to entry, new disruptive competitors are emerging at a fast pace. Such organizations can use digital technologies to reach a wide audience quickly, and at the same time, rapidly deploy new products and solutions. As such, large, established organizations, often burdened with a complexity that comes with decades of

operation, need to be able to adapt and become flexible in order to keep up with the new competitive forces. This is evidenced by the continued growth of the global start-up revolution. Global venture capital funding is booming, with over \$140 billion invested and creating value at global level estimated to be \$2.3 trillion during the period 2015-2017 (a 25.6% increase from previous years).

In the financial services industry, for instance, GAFA (Google, Apple, Facebook and Amazon) & FinTechs have shaken the confidence of leading institutions, right after the major setback suffered due to the financial crisis and the regulatory wave that followed it. Global investment in FinTechs increased steadily between 2014 and 2017 and accelerated in the first half of 2018.

The fact that these new digital-born competitors do not suffer the constraints that traditional major entities have, such as out-of-date legacy platforms and tighter regulations, has enabled an exponential growth of their influence and market share; their long-term potential is even greater.

Shift to customer focus culture

Customers' expectations and behaviors are evolving far faster than most companies can address them. Expectations have become much more unpredictable than they used to be, stimulated by increased access to information through channels such as social media and the internet. This has in turn increased customers' expectations of their service providers and limited their tolerance to unfair outcomes. At the same time, increased competition and lower costs for switching providers have amplified customers' bargaining power, making it more difficult for companies to develop and retain a loyal customer base.

As a result, top organizations have shifted their focus in order to try to meet the changing needs of their clients, placing the customer at the center of their processes and strategies. Companies need to become flexible, adaptive and receptive to change to succeed in an environment with ever-changing demands.

Increasing relevance of data

The amount and quality of information that organizations are able to gather regarding their customers, products and markets is also changing at a fast pace. The rate of change in information creation is best demonstrated by the amount of data created: 90% of worldwide data was generated in the past 2 years. There are 2.5 quintillion bytes of data created each day at our current pace, and that pace is only accelerating with the growth of the Internet of Things (IoT).

Increased availability of information, coupled with advanced techniques that can be used to analyse it, have led to data becoming a core strategic asset in successful organizations. A successful exploitation of this asset can drastically improve the service provided to the client, reveal ways to make processes more cost-efficient, and enable senior management to make better informed business decisions.

The accelerated pace of change has curtailed organizations' capacity to anticipate the future and make long-term bets. This has resulted in shorter strategic cycles, where companies define their strategy for the next 2-3 years, as opposed to 5-10 years. As such, organizations are required not only to change their strategy, operations and culture, but also to accelerate and transform the way they deliver new products, services, processes and software.

Organizations need to quickly adapt to changes in the market and the behavior of customers, owning the latest innovations is not enough. Being capable of quickly designing and building minimally viable products, test them with the clients, refine them in rapid iterations, and finally select the one that meets the customer's and the business's expectations, is a key element for success in the current environment. In short, organizations need to become agile. This concern seems to be shared across most industries. More than 500 senior executives from around the world were interviewed in 2018, and 92% of them said they believe organizational agility is critical to business success.

Commitment to the industry

Within this context, the present study aims at providing insight into the present and future of Agile organizations. The document is structured in three sections, which correspond to three objectives:

- ▶ Outlining the journey from traditional delivery techniques to an Agile way of working.
- ▶ Reviewing the implications and challenges for organizations in adopting Agile methodologies.
- ▶ Analyzing some misconceptions and lessons learned through practical implementation experience, and providing an overview for the upcoming future of Agile methodologies.

Macroeconomic outlook reports

Management Solutions continuously monitors developments related to the key macroeconomic indicators for the economies in which the Firm operates so that the Firm can draw conclusions on expected developments for the future..

This monitoring activity is reflected in our quarterly “Macroeconomic Outlook Report”, a document that also provides insight into the key indicators affecting the industries in which Financial Institutions operate (Banking and Insurance), and the Energy and Telecommunications industries.

Regulatory notes

As a firm providing professional consulting services for regulated industries, Management Solutions specifically monitors the regulatory environment affecting the industries in which it operates. On a weekly and quarterly basis, the Firm tracks major regulatory developments in the industries to which it provides advice, and compiles technical notes on regulatory developments that will have the greatest impact on those industries. Regulatory notes seek to summarize the rule, put it into context and explain some of its potential impacts.

During 2019, Management Solutions prepared more than 10 technical briefs on the most relevant regulations published by leading authorities.

FinRegAlerts, Management Solutions’ financial regulatory alerts app



Since 2018, Management Solutions’ financial regulatory alerts service was renewed through the launch of FinRegAlerts, an app for mobile devices developed by Management Solutions to monitor financial regulatory alerts issued by international, European and local regulators (United States, United Kingdom or Spain).

FinRegAlerts currently includes access to the following contents:

- ▶ **Publication alerts:** summaries of documents published by international regulators (BCBS, FSB, etc.) and European regulators (European Commission, ECB, EBA, etc.), as well as summaries of documents published at local level (United States, United Kingdom or Spain).
- ▶ **Quarterly and yearly regulatory outlooks:** reports that collect publication alerts and anticipate key regulatory changes.
- ▶ **Technical notes:** summaries containing details of regulations that have a major impact on or hold the greatest interest for the financial industry.

The App is available for free download from major application stores.

Organization and participation in specialized conferences and seminars

InspirAltion Day, Spain

Management Solutions was a sponsor and participated as a speaker at the InspirAltion Day Congress, organized by SAS in Madrid and attended by representatives of organization from different industries.

The event, the largest on Artificial Intelligence and Innovation held in Spain and in which Management Solutions was the main sponsor, was organized with the aim of sharing the key current and future issues in IT development that already have an impact on people and organizations.

The conference featured more than 30 speakers and discussion panels divided into two broad areas: Inspiration for Business (I4BIZ) and Bootcamp Inspiration for Data Scientists (I4DS), which dealt with real cases of application of Artificial Intelligence, Machine Learning and Computer Vision in business, without losing sight of the human side of technology.

Management Solutions' presentation was entitled "Graph theory applied to the assessment of default in companies" and shared with the audience Management Solutions' experience in Machine Learning (subject matter of a white paper published by Management Solutions) as well as current trends in default modeling.

The Spanish CDO Club

Management Solutions sponsored and participated as a speaker in the event entitled "Security and self-service: new challenges in the age of data democratization", organized by the Spanish CDO Club. The firm demonstrated its experience and knowledge of the enterprise use of owning data, presented a cross-industry benchmark and moderated a debate.

The Spanish CDO Club is a forum in which more than 50 Chief Data Officers and data managers from major Spanish companies in the financial, insurance, energy, telecommunications, tourism and retail industries participate in.

We implement an ongoing program of outreach activities and participation in specialized forums



The Spanish CDO Club

Commitment to the industry

IFRS 17 Practical Applications course, Spain

For the second consecutive year, Management Solutions participated in the teaching of a course about the main implications of the new IFRS 17 accounting standards for insurance companies, that was organized by the College of Actuaries of Catalonia (CAC).

The conference, which was attended by more than 30 representatives from different insurers, looked into the quantitative impacts of the new principles on insurance companies' financial statements under the different contract valuation methodologies proposed, which are expected to take effect in 2022, and the substantial impacts of these principles on different areas within insurance companies.

IX annual "Challenges for the Immediate Future" seminar, Spain

Management Solutions participated as a speaker at the IX annual "Challenges for the Immediate Future" seminar organized in Madrid by the Centro de Cooperación Interbancaria - CCI (Center for Bank Cooperation), which is composed of 130 entities (banks, savings banks, rural savings banks and other deposit institutions).

On this occasion, the Observatory - held at the Bank of Spain's conference hall - took place in two parts: one dedicated to the global payments situation, and another focused on the new tools and services that are evolving in traditional banking. The presentations focused on the future of cash, innovation in payments and new tools (blockchain) applied to payments, as well as data management, outsourcing to the cloud and AI applied to processes.

Management Solutions' presentation shared with those present the Firm's experience in the management of IT risks within the cloud outsourcing lifecycle.

Cycle of Conferences on New Technologies and their Economic and Social Impact, Spain

Management Solutions participated in the Cycle of Conferences on New Technologies and their Economic and Social Impact, organized by the Foundation for Applied Economics (Fedea) and the Circle of Entrepreneurs of Spain with the aim of showing the degree of implementation of Artificial Intelligence in Spain as well as its uses and potential development paths.

Management Solutions had the opportunity to share its knowledge of digital transformation in the business field while also participating in the discussion panel on Artificial Intelligence and its uses in different productive sectors.

European Energy Trading CIO Forum, Spain

Management Solutions participated for the second time in the European Energy Trading CIO Forum by conducting an analysis among conference participants regarding innovation trends in the energy trading service and support model.

The CIO Forum is an initiative born to help boost IT innovation and efficiency in highly specialized sectors such as energy trading, and to facilitate the adoption of technology that allows trading activities to be carried out within the new regulatory requirements. The event brought together CIOs from some of the most important energy trading players at European level (including companies in the Oil & Gas sector - BP, REPSOL, Shell, Equinor and Petroineos, as well as Utilities -



INTEGRA, a transformation experience, Spain

Endesa, Iberdrola, RWE, E.ON, Uniper, Engie, EDF, Vattenfall, Statkraft and Axpo).

The analysis carried out by Management Solutions, which was presented at the Endesa facilities in Madrid, revealed key innovation trends in the service and support models trading activities. The results obtained were of prime interest to the participants and revealed the most significant challenges facing energy companies related to capturing value from innovation in service and support models.

INTEGRA, a transformation experience, Spain

Management Solutions participates as a speaker in the event "INTEGRA, a transformation experience" that was held in the Campus building that Red Eléctrica de España (REE) has in Tres Cantos (Madrid) and attended by employees of REE Group and representatives of other guest companies, mainly from the electricity sector.

Apart from participating in the opening discussion panel featuring REE's General Manager for Transportation Ms. Eva Pagán and Information Technology Director Ms. Ana María Anca de Ramos in addition to representatives of other guest companies, Management Solutions gave a presentation on risk management in electrical infrastructures together with Ms. Eva Rodicio, Risk Control Department Head at REE.

Climate Change Econometrics and Fisheries - Natural Resources, Spain

Management Solutions sponsored the "Climate Change Econometrics and Fisheries - Natural Resource" conference organized by Universidad Pontificia Comillas ICAI-ICADE, which brought together academics from different fields of expertise, representatives from the business world and regulatory authorities with the aim of providing answers to

current issues relating to the scarcity of resources and to global warming.

The conference dealt with topics relating to the Sustainable Development Goals (SDGs 14, 15, 16) promoted by the United Nations and brought together several experts on the subject, such as Mr. Christopher L. Gilbert (SAIS Bologna Center, Johns Hopkins University) or Mr. Eduardo Schwartz (Distinguished Research Professor at UCLA and Ryan Beedie Chair in Finance SFU), in addition to renowned professors in the area of resources and econometrics such as Ms. María José Gutiérrez (UPV-EHU University of the Basque Country), who reviewed the consequences of shortages in some natural resources for economic sectors such as fishing and mining.

Model Risk Management in Banking, United Kingdom

Management Solutions sponsored and participated as a speaker in a Model Risk Management in Banking conference organized in London with the aim of sharing key trends in model risk management and assessing the effectiveness that both Artificial Intelligence and Machine Learning can add to model management.

The event, of which Management Solutions was the main sponsor of, was attended by representatives from institutions such as the Bank of England, Santander, Société Générale, Bank of America, HSBC, UBS and Barclays, among others.

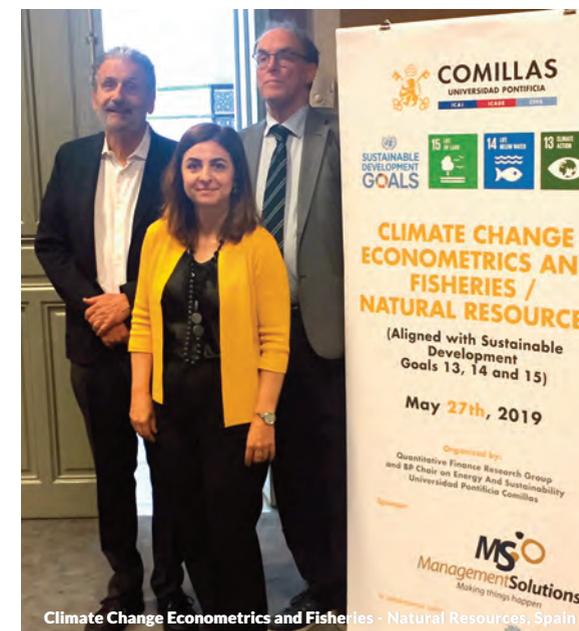
Management Solutions' presentation, "Model risk: Myths debunked and burning trends", shared the Firm's experience in MRM (subject matter of a white paper published by Management Solutions) as well as current trends in model risk management.

Risk.net Model Risk Management conference, United Kingdom

Management Solutions participated as a speaker at a two-day training conference on Model Risk Management (MRM) organized in London by Risk.net and attended by representatives from the main local and international financial institutions with a presence there.

During the conference, which brought together the industry's main leaders in the area of risk management and was attended by representatives from financial institutions such as HSBC, DekaBank, Barclays and Bank of England, attendees had the opportunity to discuss key issues for the industry and share their views on model risk management applied to ALM, IRB, IFRS 9, CECL and other models.

Management Solutions' presentation, co-delivered by Mr. Javier Calvo and Mr. Diederick Potgieter (from the PRA/Bank of



Climate Change Econometrics and Fisheries - Natural Resources, Spain

Commitment to the industry



England, author of UK regulations on model risk), was titled "Building a risk management model framework" and reviewed the current MRM regulation in the United Kingdom and its future outlook. It provided a detailed view of the components in a model risk management framework: organization, governance, policies and procedures, inventory, data and MRM tools.

Risk.net Model Risk Management conference, Germany

Management Solutions participated as a speaker at a two-day training conference on Model Risk Management (MRM) organized in Frankfurt by Risk.net and attended by representatives from the main local and international financial institutions with a presence in Germany.

During the conference, which brought together the industry's main leaders in the area of risk management and was attended by representatives from financial institutions such as



DekaBank, DZ Bank AG, Rabobank, Sberbank, attendees had the opportunity to discuss key issues for the industry and to share their views on model risk management applied to IRB, IFRS 9, CECL and other models.

Management Solutions' presentation was entitled "Building a risk management model framework" and reviewed the current MRM regulation and its future outlook, providing a detailed view of the components in a model risk management framework: organization, governance, policies and procedures, inventory, data and MRM tools.

"Model risk management and model validation in banks" seminar, Germany

Management Solutions participated again in a model risk event that brought together the heads of the modeling, validation and audit departments from some of the leading German and International banks present in Germany.

The seminar, entitled "Model risk management and model validation in banks", brought together the heads of the modeling, validation and audit departments from some of the leading local financial institutions and International banks present in Germany, who met to exchange the latest trends and tips about dealing with model risk in their day-to-day operations.

Management Solutions' presentation, analyzed the components that should be in place when building a solid Model Risk management framework while providing advice about regulatory expectations and industry best practices regarding the required governance set-up, as well as information on more specific topics such as the evaluation of model risk in a tiering system.

Risques de Modèle, Mythes et tendances, France

Management Solutions sponsored and participated as a speaker in the "Risques de Modèle, Mythes et tendances" conference organized by Revue Banque in Paris, attended by representatives from international financial institutions.

The event, of which Management Solutions was the main sponsor, was organized with the aim of sharing key trends in model risk management and assessing the effectiveness that both Artificial Intelligence and Machine Learning can add to model management. The conference, moderated by Management Solutions, was attended by representatives from institutions such as Banque de France, Société Générale, BNP Paribas and ABN Amro.

Management Solutions' presentation entitled "Model risk: Myths debunked and burning trends", aimed to share the Firm's experience in MRM (subject matter of a whitepaper published by Management Solutions) as well as current trends in model risk management.



Head of Non-Financial Risks for the Group), together with other Bank executives.

Management Solutions' presentation (*A importância da integração do Risco Operacional na gestão num contexto de mudança*) was aimed at increasing attendees' awareness about how the accelerating and deep changes affecting the financial industry today are impacting the operational risk profile of financial institutions, and discussing how Operational Risk can be integrated in the bank's management processes as well as in day to day activities.

Model Risk Management: Risk, Pricing and other modeling types, Sweden

Management Solutions participated as a speaker in the seminar "Model Risk Management: Risk, Pricing and other modeling types" organized by Risk.net in Stockholm and attended by representatives from some major Nordic and international financial institutions.

The event aimed to share the key trends on model risk, review the main regulatory guidelines and the governance that goes with MRM, and provide an overview of how to build a model risk framework for both pricing and other types of models such as retail banking. The seminar was attended by representatives from entities such as Danske Bank, Nordea, Swedbank, the European Investment Bank and Lloyds, among others.

Management Solutions' presentation was entitled "Building a model risk management framework", and shared with those present the Firm's experience in MRM (subject area of a whitepaper published by Management Solutions) and the current trends in model risk management.

Risk Nordics 2019, Sweden

In addition to being one of the sponsoring firms, Management Solutions gave a presentation on Basel III

Conference on MRM in the financial industry, Francia

In 2019 Management Solutions continued to organize semiannual seminars on Model Risk Management for Société Générale within the framework of its MRM Group program. The seminars were aimed at showing key developments and future challenges in MRM, as well as conducting different work sessions to reach a consensus on key issues.

In addition to Management Solutions' presentations, the conference was attended by MRM experts from global financial institutions.

Adapting to the New Definition of Default, Poland

Management Solutions teamed up with the Association of Polish Banks (ZBP) to organize an event on adapting to the New Definition of Default which was attended by more than 50 financial institutions in the country.

The conference dealt with the challenges arising from the new regulatory framework, providing a very practical view that leveraged the experience acquired by the Firm from implementing these regulations in Polish financial institutions.

Annual meeting on Operational Risk, Portugal

Management Solutions participated as the only external speaker at the annual Operational Risk meeting organized by Santander Bank Portugal to raise awareness within their organization about the importance of managing this risk.

The meeting was attended by more than 200 employees of the Bank including managers and coordinators of the business and support areas (first line of defense) and, since it was promoted by the Risk Division, was also attended by Mr. Alfredo Fernández (CRO) and Mr. Andrea Pozzi (Global

Commitment to the industry

finalization and Basel IV impacts at Risk Nordics 2019, one of the most relevant industry events in the Nordic countries held in Stockholm.

The two-day event, which focused on key risk issues for banks in the Nordic region, brought together more than 50 risk management leaders from the region's largest institutions, as well as European and local regulators such as the EBA and the ECB.

Management Solutions' presentation was entitled "Basel III Finalization & Basel IV Impacts" and reviewed the key regulatory changes as well as the expected impact on the European industry.



Regulatory challenges and the role of the actuary, Chile

12th Annual Banking Credit Risk Management Summit, Austria

Management solutions sponsored and delivered a presentation at the 12th Annual Banking Credit Risk Management Summit in Vienna (Austria), attended by representatives from major local and international financial institutions with a presence in the country.

The conference brought together some of the industry's leading experts in risk management and was attended by representatives from institutions such as Unicredit, ING, Credit Suisse, Nordea, etc. Attendees had the opportunity to discuss key issues for the industry such as the challenges and implications of credit risk management, IFRS 9, the new regulation for AIRB models, how to define and develop an adequate risk appetite framework, the main challenges in stress testing, and major innovations associated with credit risk management digitization.

Management Solutions' presentation, delivered by Javier Calvo and entitled "Model risk: myths debunked and burning trends", reviewed the latest trends in model risk management, going beyond best practice in European and US banks and raising a discussion on issues still unresolved in relation to this subject, such as the management of the risk implied in the use of artificial intelligence models and the quantification of model risk.

Governing Big Data: Challenges and Key Factors to Success, United States

Management Solutions organized a discussion panel for Chief Data Officers (CDOs) in New York, attended by a number of professionals from top financial institutions.

Under the title "Big Data governance: Challenges and Key Factors to Success", attendees were able to discuss the challenges and keys to successfully implementing Data Governance strategies in Big Data environments, a critical issue for the industry given the exponential growth in the

sources, nature, volume and uses of the information utilized by financial institutions for strategic development.

The forum focused on the evolution of Big Data environments from a project (siloed) approach to a Data Lake integration approach, including the need to create an enterprise-wide harmonized logical data model that will ensure the information can be properly understood and updated so it can later be used to its full potential. Other issues discussed included Data Lake hosting approaches, the best approaches to install reporting layers in or on the Data Lakes, and alternatives to support business cases that will allow the CDO areas to obtain the significant investments required to build a data governance model in these environments.

IV International Congress on Risk Management in the Dominican Republic

Management Solutions participated in the IV International Congress on Integral Risk Management for the Banking Sector in the Dominican Republic, organized by the Banking Superintendence (SIB).

The conference, which aimed to analyze current financial system trends and their impact on the risk management of financial intermediation institutions under international best practices, brought together nearly 400 attendees, mainly members of Boards, Chair persons, Executives and risk managers in EIFs throughout the region.

Management Solutions' presentation, entitled "Trends in Model Risk Management", reviewed MRM regulations and their future development, addressing in detail the key elements for defining and implementing an integral MRM framework.

29º Congreso de la AMA, México

Management Solutions participated in the 29th AMA (Mexican Association of Actuaries) Congress held in Puerto



CDO Latam Summit, Peru

Vallarta and attended by more than 400 representatives of the actuarial, financial and risk areas of nearly 90 companies in the Mexican insurance sector.

The conference, titled "Growth with profitability and solvency within the framework of good governance", was attended by speakers from the CNSF (Mexico's National Commission of Insurance and Bail Bonds), international insurance companies present in Mexico and other local firms.

Management Solutions participated in the discussion panel "Impacts of Solvency II type regulations: from actuarial results to decision-making", which closed the conference that included different speakers who presented their experiences regarding the role of the actuary in the German, English, Spanish and Mexican markets within the context of Solvency II.



Model Risk Management: Risk, Pricing and other modelling types, Sweden

Informative breakfast about Solvency II, Colombia

Management Solutions organized in its Bogota office an informative breakfast about Solvency II with teams from 20 Colombian insurance companies.

On this occasion, Management Solutions shared its experience with the implications of adapting to Solvency II, a challenge for insurance companies with an impact on the areas of business, methodology, data, processes and systems.

Insurance Day, Peru

In addition to being one of the sponsoring companies, Management Solutions participated in the Insurance Day organized by the Peruvian Association of Insurance Companies (APESEG), attended by key representatives from the Peruvian insurance industry.

Under the title "Adopting change", the congress reviewed the overall changes that the insurance industry has been experiencing and the implications for the Latin American market, as well as the current situation and perspectives for the Peruvian insurance sector, with a focus on the opportunities arising from innovation and the use of emerging technologies in the industry.

Management Solutions participated in the seminar "Digital Health", which dealt with current trends, opportunities, and the challenges faced by the health insurance sector to adapt to new technologies.

CDO Latam Summit, Peru

Management Solutions participated in the "CDO Latam Summit" that was held in Lima. The event, which aimed

Commitment to the industry



to share new trends and technologies on data science that will be key in the future, brought together top company executives from a number of industries in the region, including the financial, energy and telecommunications sectors, among others.

In addition to being a sponsor, Management Solutions moderated a panel on "Culture: how to get the company to adopt and use data" in which Marco Bonilla, Global Executive Director of Advanced Analytics at BBVA, was the guest speaker.

Regulatory challenges and the role of the actuary, Chile

Management Solutions participated as a speaker at the first annual seminar on "Regulatory challenges and the role of the actuary" organized in Santiago de Chile by the Society of Actuaries of the United States (SOA), the world's most prestigious actuarial institution.

The event was held at the Pontifical Catholic University of Chile and attended by representatives from Chilean insurance companies. The seminar consisted of two sessions, one focused on the role of the actuary under a risk-based supervision model and on the implementation of IFRS 17, and another one that included two technical workshops, taught by SOA members, which dealt with Solvency II and IFRS 17 topics.

Management Solutions' presentations shared the Firm's experience in the industry, notably the implications of adapting to Solvency II and IFRS 17.

Basel III application to credit risk in Europe, Chile

Management Solutions participated in the presentations on the application of Basel III to credit risk in Europe, delivered to the Association of Banks and Financial Institutions of Chile (ABIF). Prior to the publication of a law that will govern the

implementation of Basel III in the Chilean market, Management Solutions had the opportunity to share its experience with applying the standard in Europe to representatives of the main Chilean financial institutions.

9th International Congress on Risk Management, Brazil

In addition to its role as a sponsor, Management Solutions participated, for the ninth consecutive year, as a speaker in the international congress on risk organized by FEBRABAN (Brazilian Federation of Banks), which was attended by representatives from regulators and major financial institutions from Brazil as well as other parts of the world.

The goal was to share the view of regulators, financial institutions and professional service providers on certain aspects relating to the latest risk management trends and challenges in financial institutions.

Management Solutions' presentation was entitled "IFRS 9: Integration in Management" and shared a framework of practical challenges based on the international experience that the Firm has in IFRS 9.

Finance 5.0 seminar organized by Banco Santander, Brasil

Management Solutions participated as a speaker at the "Finance 5.0" seminar organized by Banco Santander in São Paulo, attended by transformation leaders from the Bank's Finance Area.

The event, which brought together close to 350 guests from the areas of finance and technology, addressed key issues on how technology is impacting the Finance function and how it will affect processes and required roles in the future.

Management Solutions' presentation was titled "Technology and the challenges faced by the Finance function" and reviewed the challenges the Finance function needs to address

as a result of a changing environment marked by new business models, increasingly demanding regulators, the emergence of new risks and the development of new technologies.

Workshop on IFRS 9 and GDPR, Brazil

Management Solutions organized, in collaboration with ACREFI (Associação Nacional das Instituições de Crédito, Financiamento e Investimento), a workshop entitled “Regulatory Challenges: IFRS 9 and the General Data Protection Regulation (GDPR)” that was attended by representatives from regulators and the local and international financial institutions present in Brazil.

The workshop aimed to share key trends and challenges in both IFRS 9 and the Brazilian Data Protection Regulation (LGPD) approved in August 2018.

The workshop presentations, given by Management Solutions professionals with expertise in this area, shared the Firm's experience in IFRS 9 implementation at the international level, with particular emphasis on the challenges that this could pose for institutions present in Brazil, and examined the key operational impacts of the new General Data Protection Regulation on systems and processes on a strategic and governance level.



“Our deep sector knowledge helps to develop differential value propositions for our clients”

This specialization allows us to anticipate clear answers to key challenges for the different industries in which we work.

We are firmly committed to sharing our sector knowledge. This is why we have a selective presence in major industry forums in the countries where we operate, and publish specialized studies on relevant issues for each industry.

We also seek to transfer best practice between industries, identifying issues that are better resolved in one industry than in another. All of this is possible because we work for organizations that are leaders in their respective industries and geographies.

Javier Calvo
Partner at Management Solutions



Finance 5.0 seminar organized by Banco Santander, Brazil