



VisMederi
Life Sciences



COMPANY PROFILE	5
AREAS OF EXPERTISE	7
MESSAGE FROM OUR FOUNDERS	8
GOVERNANCE AND STAFF	10
VACCINE DEPARTMENT	12
FOOD SAFETY AND ENVIRONMENT DEPARTMENT	14
QUALITY	17
RESEARCH PROJECTS	18
SCIENTIFIC PUBLICATIONS	20
COMPANY PARTNERSHIPS AND INVESTMENTS	21
ECONOMIC AND FINANCIAL INDICATORS	22







Company Profile

VisMederi constantly works supporting companies and Big Pharma in the biggest and most ambitious challenge of improving Public Health through the development of more effective and safer drugs and vaccines.

VisMederi is an innovative SME specialized in applied research and expert services in the field of Life Sciences and Public Health.

Our experience in the academic and corporate worlds added to the extensive scientific expertise of our founders and staff, make VisMederi a reliable partner in the **development of vaccines, medications and molecules for therapeutic purposes** for major international pharmaceutical companies. VisMederi constantly works supporting them in the biggest and most ambitious challenge of improving Public Health through the development of more effective and safer drugs and vaccines. The company, founded in 2009, operates in Siena, home to a prestigious university, international reference centre and established tradition in the field of vaccines.

Our Core Business.

Our company is part of the multifaceted process that leads to the release of a new vaccine through the optimization of analytical tests on biological samples, the validation of bioanalytical methods and the scientific advice on the evaluation of effectiveness. The objective of VisMederi is to establish itself as a valuable partner for big pharmaceutical companies, with the aim of assisting them in the choice and in the development of optimized protocols and custom essays for serological studies. VisMederi checks and validates all its activities in order to ensure maximum customization for the customer, provide an accurate analytical result and offer a qualified service in the interpretation of provided data.

Valuable Collaborations.

Our company can count on a consolidated team of researchers and technical experts, as well as on its Scientific Committee for an ongoing evaluation of research activities. The company has also built an extensive network of collaborations, which make it an international point of reference for universities and research centres in developing projects aimed at improving the effectiveness and safety of vaccines

and their components. With the University of Siena, VisMederi has developed an active program of collaboration in the framework of different PhD programs in order to help support the formation of human capital on the local area.

VisMederi Research.

Through its subsidiary VisMederi Research, founded in 2014, our company has chosen to focus even more decisively and strategically on the research activities for the development of new experimental protocols to support the development of natural and synthetic molecules and biological processes, which makes necessary a test customization to ensure more effective and exhaustive investigation.

Food and Environmental Safety.

VisMederi has operated gradually to diversify its business, also developing an internal division focused on Quality Control analysis for food, water and environment. The unit, operating since the second half of 2014, focuses on food and environmental microbiology and works closely with local businesses that have chosen the quality and safety of products and services as their strong point.

Working for Quality.

Investing in quality is a strategic choice and can make a difference in terms of competitive advantage. VisMederi performs all its activities in compliance with the European certification UNI EN ISO 9001: 2008 system and is a laboratory working in compliance with the UNI CEI EN ISO / IEC 17025: 2005 for the food area. Since 2015, VisMederi has been included among the few private companies in Italy accredited as Medical Laboratory according to the UNI EN ISO 15189: 2013 regulation. The objectives and suitability to the quality policy are constantly reviewed and adapted to the evolution of scientific and technological research, ensuring a constant focus on the customer.

Customer Orientation.

VisMederi has the ambition to present itself as a reliable and competent partner. This means offering not only a quality service, but also knowing how to listen and to interpret the needs, identifying innovative solutions and supporting the customer throughout the process.



Areas of expertise

SEROLOGY

Our company supports big pharmaceutical companies by providing qualified services in the assessment of efficacy and immunogenicity of different vaccines. Our organization is able to fully cover the activities required for the execution of clinical trials Phase II, III and IV, and makes use of synergies with international research centres and facilities for the implementation of pre-clinical protocols and Phase I studies.

VisMederi completes its portfolio in this area through a research group that deals specifically with in vivo studies on small animals such as mice and ferrets. These activities range from the execution of analytical essays to the design of ad-hoc testing for new adjuvant molecules.

Our organization constantly performs the validation and standardization of methods on the basis of international guidelines.

VisMederi is considered as a point of reference for customers in consulting activities with different regulators. Serologic tests for the release of influenza vaccines remain the enterprise's gold standard, while also working for the evaluation and validation of many other products.

DIAGNOSTICS

The newly formed working group aims at developing methods, under specific customer requirements, for the release of molecules or systems for diagnostic purposes. To this end, the team guarantees a deep knowledge and constant updating of international guidelines ensuring a key technical support also in regulatory terms.

FOOD MICROBIOLOGY

This division offers consulting services and chemical-physical and microbiological analysis in the environmental, food and agriculture sectors through investigations on all types of food, working surfaces, water and the environment. The involved professionals have a long and established experience in the field, both in the company and within the laboratories, in the realization of sampling and analytical investigations related to chemical, physical and microbiological analysis. In addition to the analytical work and support in the preparation of the necessary documents for regulatory compliance, the team ensures a mentoring service to companies aimed at improving the way of realization of food products or processes, in order to eliminate any potential risk of harm to human health.

OUR HISTORY

Six years always growing

VisMederi's name comes from two Latin words "Vis" which means "strength" and "Medeor" which means "cure", to indicate the heart of the activities and of the mission that the company has set itself: help improving health and Public Health. VisMederi was founded in June 2009 by the intuition of the founders. Together they have chosen to transfer their skills and expertise on a business plan, offering a job opportunity to young talented researchers.

The transfer of knowledge from the university to the company allowed VisMederi to reach a high working standard in a very short time. The experience and the network of contacts acquired by the founders in academic circles have been fundamental to the business startup, as well as the choice to locate inside the incubator of Toscana Life Sciences, where VisMederi could access immediately to instrumentation, technology platforms and laboratories with different risk classes to perform tests for pathogens such as pandemic viruses.

The winning intuition consisted in investing in a set of niche biological tests that only a few other laboratories in the world were able to implement with very high quality standards and that, for a correct performance, required no commercial kits nor the use of instrumentation, but the intervention of researchers such as biologists and biotechnology experts. Competence, professionalism, quality of services allowed VisMederi to compete in the international market, working with major pharmaceutical industry players.



Solid foundation for continued growth

In 2015 VisMederi has almost doubled its turnover, the staff grew, the company has attracted significant funding on three innovative research and development projects and has continued to compete in international markets offering qualified services in the life sciences sector.

The year 2015 was another year of growth for VisMederi and this result, which for us is a source of pride and fulfilment, is the consequence of a great team effort.

A motivated team, which year after year has been enriched by young and excellent researchers, has been able to take the responsibility of the challenge: to pursue the competition on the international market in offering qualified services in the field of Life Sciences. For a company like VisMederi, this means taking on a full commitment on ensuring procedural and quality standards required

by multinational companies and, at the same time, providing the flexibility and versatility of a young and innovative Small and Medium-sized Enterprise.

Looking at 2015 from a distance, we can surely confirm that we have been able once more to find a balance between the international and local root ambitions. This means for us a strong connection with the University of Siena, both in terms of scientific collaborations and of training and job opportunities for brilliant scientists and technicians from our University.

Since 2009, we have built a solid foundation on which we could grow. A foundation made of skill, courage and commitment that has allowed us to consolidate our core business in its relevant markets, as well as to expand our service portfolio

into adjacent segments to the serological tests for the registration of influenza vaccines, entering the issue path of other vaccines. Consolidate, grow, and build: these three verbs find a strong confirmation in all the indicators reported in our Annual Report, the summary of our 2015. In this year, our turnover basically doubled, our staff grew, we attracted about 400,000 Euros funding on three innovative research and development projects funded by the Region of Tuscany through European funds, and we are business partners in two projects funded by the PAR FSC (formerly FAS) health tender, alongside the University of Siena and the Achille Sclavo Onlus Foundation.

On the international front, we kept on collaborating to important research projects involving different universities,

Small and Medium-sized Enterprises and Big Pharma for the development of innovative immunization technologies to be used for next-generation vaccines (Aditec) and to develop cutting-edge tools aimed at improving the analysis and monitoring of vaccine safety before and after dismissal from the market (BioVacSafe). It was also very important to be indirectly involved in the international project called Flucop providing analysis and advice to one of our industrial partners. We will report about this in more detail, but we believe that the quality and quantity of the projects we are involved in are an important indicator of our ability to present ourselves as a reliable and qualified partner in what we do best: assessing the immunogenicity and efficacy of vaccines. At the same time, the projects on a regional basis allowed us to forge new collaborations and wide-ranging partnerships in the field of Life Sciences by providing our expertise in different sectors from our usual range, for the benefit of greater versatility.

Versatility and flexibility have also characterized the activity of our Vaccines Division, which has seen us maintaining all the collaborations in place, consolidating our presence on key markets, and expanding the range of services and action to the benefit of new interesting partnerships. Our core business, in terms of turnover, remains that of the analysis of vaccine efficacy. On the Japanese market, in particular, we continued to work for major pharmaceutical companies producing flu vaccines, ensuring them a high-quality evaluation process, quickly and at competitive costs. In 2015, in particular, we have achieved important results for two of our Japanese customers, in one case, leading to the conclusion the program of seasonal studies necessary for the release of an influenza vaccine for children and in another, coming up to Phase III in the path of the seasonal vaccine release.

The growth registered in the year, both in terms of collaborations and in terms of participation in research projects has had a positive effect on our staff, allowing us to close the year with a staff of nearly 30 people including researchers, technicians and administrative staff.

The year 2015 was an important year for the American market, where VisMederi laid the foundation for the development of an ongoing collaboration with a Big Pharma industry, qualifying as a reference laboratory for the performance of serological tests for the release of influenza vaccines. In our role as a partner and consultant in terms of efficacy studies, we have continued to work in Europe, where the main contract came from a global company operating in the health sector, for which we perform serological and cell tests aimed at the release of the influenza vaccine. In 2015, we made our entry even on the Thai market by executing a new type of test in the assessment of efficacy of vaccines for pertussis for a local biotech company. Last but not least, the implementation of a new service, the long-term storage of biological samples used in trials, which was implemented in response to a need of our customers and to the desire of offering a more complete service.

The growth registered in the year, both in terms of collaborations and in terms of participation in research projects has had a positive effect on our staff, allowing us to close the year with a staff of nearly 30 people including researchers, technicians and administrative staff. With great fulfilment, in 2015, we managed to hire two young graduates who had carried out their internship in VisMederi, pursuing the aim of enhancing professionalism and skills through stable forms of contracts. The experience and expertise of the researchers working in VisMederi have also materialized

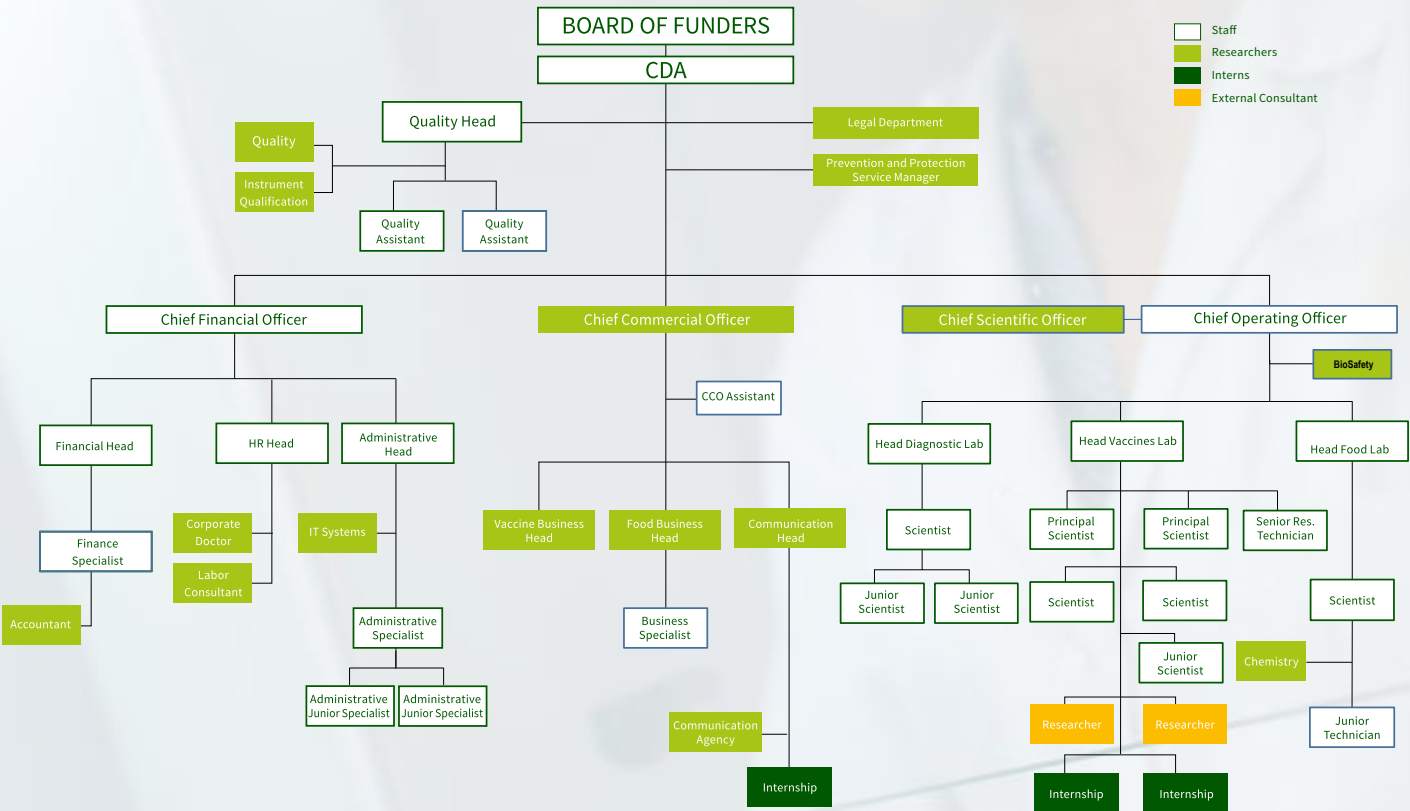
in the participation as authors to scientific publications and reviews.

On the strength of our expertise and solid scientific background, we have continued to invest in the provision of advice and analysis in the field of food, environmental and workplace safety services. While remaining a marginal division in terms of turnover compared to the core business of vaccines, this new area of activity has opened the way for interesting collaborations at a local and regional levels, where today we are partners of some of the largest companies in the field of large-scale distribution and food industry.

The link to our reference territory has expressed in small but significant sponsorships in sports for which we would like to mention one in particular, the one with the Baskin team (which stands for “integrated basketball”), of ASD Costone in Siena. An inclusive discipline, involving able-bodied and disabled boys and girls with the aim of developing a strong and genuine integration of sports and time together. The values and the pursuit of higher goals guide us every day in our work – to make it better and better.

Founders of VisMederi

Governance e staff





Human resources

Our most important asset

People with their professionalism and experience make VisMederi a young, dynamic and innovative company. A human capital of competent and motivated women and men, which has grown and strengthened thanks to new professional highly technically and scientifically specialized staff over the years.

The two main business areas are completed

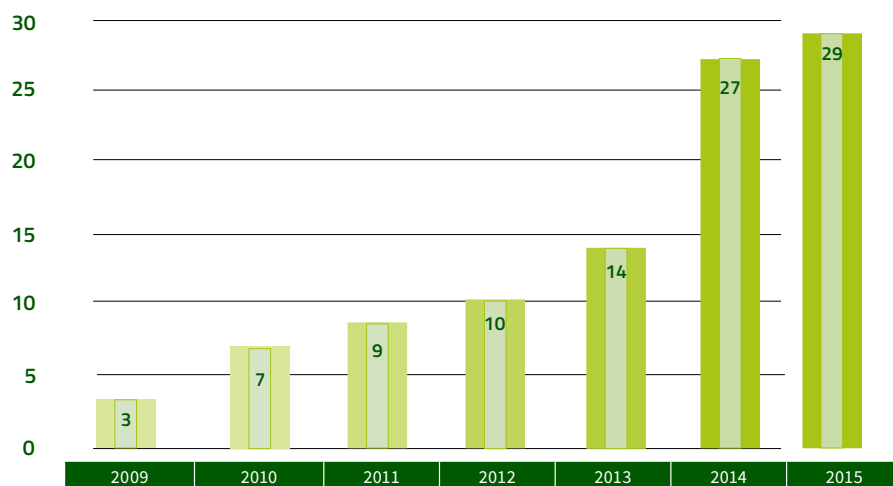
by the administrative support area to all research activities as well as a finance and management control.

The high profile of the working group is one of the strengths of VisMederi, which has chosen to invest on young people and to enhance their talent in order to grow and successfully enter new markets. The initial selection, thanks to the direct connection

with the University of Siena, is oriented to the choice of the most suitable profiles to the needs of the company and to our current and potential customers. Mainly the working group consists of graduates in Biological Sciences and Biotechnology, many of them with a PhD.

In line with a growing trend that has never stopped since the company was established, VisMederi has continued to increase its human resources and to stabilize existing employment positions.

Also in 2015, the staff worked as a team to achieve excellence by sharing business objectives with the founding board members.



The staff grow from 2009 to 2015





In 2015, VisMederi has continued to perform the main serological tests required for registration of influenza vaccines. This activity, where the company can guarantee a proven record of accomplishments in the international arena, has been carried out mainly for customers already in its portfolio.

Vaccine department

Tests on vaccines: an expanding area

Activities included essentially the evaluation of immunogenicity of influenza vaccines through the execution of three tests: haemagglutination inhibition (HAI), single radial haemolysis (SRH) and Virus Neutralization (VN).

All the tests performed by VisMederi provide for a consistent validation process compliant with international guidelines – among them, the “Validation of analytical procedures: text and methodology” (ICH) – as required by leading regulatory agencies such as EMA (European Medicines Agency), FDA (Food and Drug Administration) and PMDA (Pharmaceuticals and Medical Devices Agency).

The scientific and methodological accuracy, customer care and the building of stable relations of cooperation has allowed the company to join, in the course of 2015, the network of qualified laboratories of a major multinational in the pharmaceutical sector, allowing us accreditation as HAI test provider for the release of the influenza vaccine. A great result, which included a qualification path lasting more than a year, where VisMederi was able to demonstrate the quality of labour standards and the high performance of the operators (for further details on the subject, see the case study below).

Within the range of flu vaccines, VisMederi was not limited to the execution of tests related to the evaluation of immunogenicity of the vaccine, but it also introduced effectively within the production chain, through the evaluation of the presence of antigenic drift mutations in intermediate phases of the influen-

za vaccine production.

For the completion of operations in the sector, and in addition to the available test panel to study the humoral immune response, we have implemented study protocols for cell-mediated immune response by ELISpot and FACS platforms. In the course of the year, we also performed numerous assays for the execution of studies of the effectiveness of vaccines. Of particular relevance in this sector, in addition to the isolation of microorganisms in cell cultures and to the molecular identification of viral and bacterial isolates from clinical specimens, the quantization methods of the microorganisms through real-time PCR.

2015 has been the year in which VisMederi has further developed its expertise for the production of pseudo types aimed at the enforcement of the neutralization test, already existing in its portfolio. This test allows performing the measurement of functional antibodies without having to use live virus and thus without the need of a high biological containment laboratory. The value of these assets has also been recognized by the Tuscany Region, which financed in part this implementation.

The implementation of pseudo types is one of the activities that VisMederi has developed during the year, in order to become more independent from third parties, according to a strategic vision oriented to a substantial self-sufficiency in the provision of services and advice to the client. In these terms, the company also developed the growth activity of

Over the course of 2015, we carried out serological tests for the following trials

- 6 Phase III clinical trials for the release of influenza vaccine for adult / elderly population
- 2 Phase III clinical trials for the release of influenza vaccine for paediatric population
- 2 Phase III clinical trials for the release of pandemic vaccine (A / H5N1) for adult population
- 1 Phase II clinical trial for the vaccine for pertussis;
- 2 European projects

For more than

15.000
analysed samples
in a year
to at least
3 different antigens
and by at least
3 different serology
methods

influenza viruses in cell culture and in eggs, in order to use them directly in serological testing. This activity, on the one hand, allows providing a more comprehensive service to our partners and, secondly, providing greater flexibility in the execution and delivery times. VisMederi has continued to carry out laboratory activities for immune assessment of bacterial vaccines, through “bactericidal” tests (SBA-assay) and “opsonization” (OPA-Assay).

Of particular note, in the context of bacterial vaccines, is the participation of VisMederi in the international network of qualified

laboratories for implementation of MATS (Meningococcal Antigen Typing System), an ELISA (Enzyme-Linked Immunosorbent Assay) test aiming at the screening and classification of circulating meningococcal strains coming from different countries in the world.

An activity that has offered precious professional experience and unique research to the team involved in this project. The work, initially aimed at the execution only of the MATS test, has further extended the qualification of the ELISA kit and therefore of the reagents used in the tests and sent to all laboratories in the world that are part of the network.

In 2015, finally, the VisMederi researchers also challenged themselves with a new type of test in the context of the assessment of efficacy of vaccines for whooping cough, for which a specific ELISA kit is designed and validated for the PT and FHA proteins for a Thai biotech company, thus entering a new market segment. The kit has then been used for the analysis of human biological samples as part of a clinical trial Phase II.

Not only analysis, but also training. During the year, the company was selected to implement a training phase from a major international non-profit organization committed to introducing innovative solutions in health, with a focus on child survival, maternal health and infectious diseases. The collaboration has developed in the context of a specific project on vaccines, which called for a portion of training about performing serology tests (HAI, MN assay) and a part of supervision of the tests performed as part of the clinical trial for the vaccine release.

Other activities carried out in VisMederi laboratories in 2015

- ✓ *Antigenic Drift analysis using HAI tests for six batches of flu vaccines*
- ✓ *Screening of about 400 strains of meningococcus collected in different areas of the world for their recognition and classification*
- ✓ *About 30 validation protocols for serological tests completed for the release of influenza vaccines (pandemic and seasonal), tetanus and pertussis*

CASE STUDY

Serological tests: training in a Big Pharma

In October 2014, as a senior researcher, I had the opportunity to be selected to participate in a training course sponsored by a pharmaceutical global leader in the vaccine industry in the US. The training aimed at instructing experts in the field of serological tests, required by the regulatory agencies for the commercial launch phase of influenza vaccines. After passing the training phase, I was then deemed fit for my turn in the role of trainer. On my return, I immediately began an important and laborious activity in VisMederi aimed at training researchers and technicians of the entire laboratory to the same quality criteria required by the pharmaceutical company.

This experience was exciting both in terms of professional growth and in terms of self-improvement and it allowed me to meet and collaborate with scientists recognized worldwide as the leading experts in the field of vaccines. Through this process, we have implemented a streamlined, efficient and sustainable methodology. Today that major pharmaceutical company recognizes us as an official partner entrusted with testing and analysis necessary for clinical trials. I am currently in charge of this important project, which I follow with enthusiasm and dedication. I hope that, to VisMederi, this is just the beginning of a long process of collaboration.

Silvia Grappi

Researcher



For the new internal division “Food, Safety and Environment”, 2015 has been an important year, in which we have consolidated partnerships launched in the first phase of activity, structured and expanded the services offered and broadened the horizons of our field of action. The staff has also enriched with new professionals, allowing us to strengthen our division also commercially speaking.

Food safety and environment department

VisMederi is currently a highly reliable partner for small- and large-sized enterprises, mainly located in central Italy, in the provision of counselling and testing services in the field of food, environmental and occupational health and safety. In 2015, we supported our customers, both new and existing, accompanying them systematically in their activities, taking prompt action when there was the need to align to the regulatory requirements in health and hygiene, building together voluntary improvement courses and ensuring staff training. We did it in the shared belief that working to ensure better quality is an investment for the future.

If we analyse our parameters, which certainly reflect the performance of a division with only one year of activity behind in terms of numbers, we can be satisfied: the samples analysed in our laboratory have increased tenfold and we have grown in terms of hours of provided training, advisory services, turnover, and number of activated collaborations. An extremely positive increase, the latter, judging also from the qualitative point of view, with important partners who have chosen to rely on us in their activities.

Our laboratory is registered in the list of the Tuscany Region of the laboratories accredited to perform analysis for food self-monitoring and operates in compliance with UNI CEI EN ISO/IEC 17025:2005.

WHERE WE WORK

The collaborations set in 2015 mainly involved companies operating in the following sectors:

- Large-scale retail trade (GDO, Grande Distribuzione Organizzata)
- Catering (enterprises and schools)
- Accommodation services
- Processing industry and meat processing industry
- Bakery products
- Agriculture

ANALYSIS OF FOOD AND WORKING SURFACES

The activities carried out in the macro field of chemical and microbiological tests on food and work surfaces aimed at determining the food safety and hygiene have affected the entire production process, in particular:

- *Research of pathogenic microorganisms, process, shelf life and safety indicators.*
- *Simple and extensive nutritional analysis and determinations of contaminants and inhibitors.*
- *Analysis with FSIS methods.*
- *Durability studies on the product (shelf life): constant quality checks.*
- *Search for mycotoxins and allergens.*
- *Analysis of material in contact with food and pet food analysis.*
- *Search for GMO.*
- *Animal DNA identification and species identification.*
- *Analytical determinations for drafting the energy certification.*
- *Technical and legal validation of labels and technical data sheets for food products.*

For the working surfaces:

- *Evaluation and sanitization of working surfaces, food processing equipment and tools through the use of swabs, sponges and slides.*
- *Search for contamination indicator microorganisms.*
- *Search for pathogenic microorganisms.*

2015 OUR ACTIVITIES IN BRIEF

HACCP SERVICES

In 2015, we supported our customers in the process of validation of self-monitoring plans, drawing up the self-monitoring manual in compliance with the HACCP method and in the application of the “Hygiene Package”.

WATER ANALYSIS

Our laboratory carries out chemical and microbiological analysis on water samples of any type. In 2015, the activities mainly concentrated on the quality control of water used by food manufacturers and sampling, determination and verification of process parameters for swimming pools. The same service is also offered for drinking water, thermal water, natural mineral and spring water and wastewater.

LEGIONELLA

The operators of tourist accommodation and spa facilities are required to perform risk assessments related to infection by Legionella and to draw up a self-monitoring document. For this reason, also in 2015, VisMederi has joined its customers in the water analysis, biofilm analysis and in the overall management of self-monitoring plans.

CASE STUDY

One more service: the Nutritional Table

Since 2015, VisMederi has embarked on a new task: the drafting of the nutritional tables of food according to stipulated regulation (EU directives) No 1169/2011 on the provision of food information to consumers, which came into force in late 2011. This regulation has granted a three-year time to every single country to adapt to the new rules for the provisions regarding labelling, presentation and advertising of food and will be enforced since December 13th 2016 for nutritional labelling provisions.

Our laboratory is already able to offer assistance to the calculation and voluntary nutrition label editor, providing all analytical services for the determination of all the mandatory information required by the regulation. Energy, fat, saturated fatty acids, carbohydrates, sugars, proteins and salt are expressed as amounts per 100 gr or per 100 ml or per portion, however with the possibility to customize the parameters according to individual customer requirements (e.g.: vitamins, minerals, fibres, additives, etc.). Upon specific request, VisMederi is also able to draw the nutrition labels according to current regulations in the US, according to the regulations of the FDA. Our tables are implemented through the calculation of nutrients according to the EU Regulation 1169/11: they are therefore valid for legal purposes and are supported by a certificate for each food product in compliance with the regulation.

Sara Sbragi

Researcher



Quality

The 2015 goal: obtaining accreditation as a medical laboratory operating in compliance with UNI EN ISO 15189:2007

VisMederi carries out all its activities in compliance with UNI EN ISO 9001:2008, which implies a continuous work aimed at improving the entire enterprise management system, laboratory activities and staff. A strategic plan that is continuously implemented through an open process, involving the company, the client and the suppliers, as well as the different contributions from the academic and scientific world, in order to improve and optimize each activity to meet the needs and expectations that are specific to an international research of high value.

In VisMederi, the quality policy goes through the training of staff, ranging from the most modern methods of analysis to the use of technological facilities and the latest equipment, always having as a reference the customer's satisfaction in all its implications. The result of these activities takes the form of a young and dynamic company, which makes quality and efficiency the cornerstones of all our activities, with the aim to achieve ever-higher standards of excellence.

During 2015, this continuous effort has been reflected in the accreditation of VisMederi as a medical laboratory (UNI EN ISO 15189:2007) at the reference Italian agency (Accredia). A result that has allowed us extending the scope of our quality system to the requirements of UNI EN ISO 15189:2007, which is considered the reference standard for the quality management system of medical laboratories at an international level. The adoption of a specific quality system for companies like ours carrying out laboratory diagnosis is not a formal choice or marketing, but rather provides our customers with a certificate of quality of processes and, above all, with the effectiveness and reliability of our services in all their phases. VisMederi is currently one of the very few Italian private laboratories to be awarded this accreditation, which is a guarantee not only of quality but also of technical competence.

Quality Management System

UNI EN ISO 9001:2008

Certification body: TUV Austria

Release date: March 2010

Since 2010, VisMederi has been certified according to UNI EN ISO 9001:2008. The "Quality Management System" Certificate guarantees the requirements of management systems for quality that a company must meet to demonstrate its ability to provide products and services that respond to customer requirements in regulated areas. The quality according to ISO 9001:2008 is the degree to which a set of inherent characteristics meet the requirements in a process of continuous improvement.

Accreditation for Testing Laboratories

UNI CEI EN ISO/IEC 17025:2005

Accreditation body: Accredia

Release date: December 2013

VisMederi is registered in the Region of Tuscany among the laboratories performing analysis in the field of food industry self-monitoring procedures with No. 065. In 2013, the company obtained from Accredia (Italian Accreditation Body) its accreditation as laboratory working in accordance with UNI CEI EN ISO / IEC 17025:2005 for the food area. The accreditation verifies and guarantees the competence and professionalism of a testing laboratory in accordance with objective parameters. Obtaining accreditation means for the company officially recognize its reliability and professional competence at an international level.

Accreditation for Medical Laboratories

UNI EN ISO 15189:2007

Accreditation body: Accredia

Release date: May 2015

In May 2015, VisMederi obtained from Accredia accreditation as a medical laboratory operating in compliance with UNI EN ISO 15189:2007. The standard specifies the requirements for quality and competence of medical laboratories just in terms of methodologies, scientific, technical, technological, organizational and procedural elements, as well as the specialization of the staff. The requirements of the ISO 15189 management system naturally fulfils the principles of ISO 9001:2008 Quality Management System – Requirements.



Research projects

Our commitment to research

Innovation is an important focus for VisMederi

In a market characterized by high transnational technology and increasingly accelerated development cycles, it is essential to support business growth with continuous investment in R & D activities aimed at increasing our intellectual capital, valuing intangibles and raising more and more the level of technological competitiveness. In VisMederi, we feel every day the importance of the stakes, given the increasing trend for large pharmaceutical companies outsourcing routine phases of research on highly specialized and efficient subjects that, with their business model, are able to turn part of the huge research costs from fixed to variable. It is estimated that the turnover related to the outsourced research services will grow at a rate of 9.83% (CAGR) over the period 2014 to 2019 (Source: Global CRO Market 2015-2019). The size of this

market will reach \$ 45 billion by 2022. VisMederi's commitment to research is evidenced by the success achieved during 2015 on of euro planning plans carried out by the company, yielding the approval of three research projects presented on the FESR-Por-Creo 2014 – 2020 programming, out on calls 1 and 3 for Research and Development. While the subsidiary VisMederi Research results within the partnership of research companies and public bodies and promoters of the Inside project, VisMederi itself is among the partners of the winning Magic Thera-Vax project and single bidder on tender for call 3 in the Innoviral development project, also presented at Smau Florence 2015. With this project, we foster the development and implementation of a new process able to improve efficiency and safety inside of the analytical laboratories, while expanding the company's production capacity. The three projects will attract a total of about 400 thousand Euros of financing and represent a source of

pride for the company, as well as a continued commitment and tangible sign of VisMederi in Research and Development in the field of Life Sciences.

VisMederi is business partner in two projects funded by the Tuscany Region for FAS Salute 2014 Tender, issued as part of the 1.1.2 line of PAR FSC (ex FAS) 2007-2013 to support research on quality of life, human health, biomedicine and innovative medicines. The call, whose beneficiaries are universities, University Hospitals and other research organizations, expressly provided for the enterprise participation. VisMederi will offer its added value in terms of research and advisory services on Unavir and S-Afrivac projects.

During 2015, VisMederi has confirmed its commitment to support research projects of significant impact on innovation in the field of Public Health, in collaboration with a large group of partners consisting of research centres, universities, SMEs and big pharma across Europe.

INTERNATIONAL PROJECTS

BIOVACSAFE

BioVacSafe aims at developing cutting-edge tools to improve the analysis and monitoring of vaccine safety before and after release on the market. The project, lasting five years, is funded by the Innovative Medicines Initiative (IMI), a public-private partnership between the European Union and the European Federation of Pharmaceutical Industries and Associations (EFPIA) for a total of over 30 million Euros of public and private investment. www.biovacsafe.eu

ADITEC

Target of ADITEC (Advanced Immunization Technologies), which involves scientists from 43 research institutions in 13 different countries, is the development of innovative immunization technologies to be used for next generation of human vaccines. ADITEC, the largest project on vaccines financed by Europe with 30 million Euros, involves prestigious universities and European research institutes together with leading US groups in the field of system and adjuvant biology. The consortium also includes numerous European pharmaceutical and biotechnology companies, engaged in the study of innovative technologies for the development of more effective and safer vaccines.

www.aditecproject.com

NATIONAL PROJECTS

INNOVIRAL

Influenza is a top priority in the field of Public Health for its impact on overall well-being and for the threat of pandemic outbreaks. Serologic tests currently in use, used for licensing anti-flu vaccines, are outdated and are becoming obsolete and unsatisfactory at this point. The last update of the EMA (European Medicines Agency, the European regulatory body) guideline for the anti-influenza vaccine has stressed the need to introduce innovative tests for the evaluation of vaccines. The Innoviral project is focused on the development and validation of a new and innovative test to evaluate influenza vaccines, pandemic or not, quickly and reliably, using pseudo viral particles (PPN test) that will be prepared in VisMederi's laboratories according to the procedures described in the literature. This test has all the prerequisites to be a valid substitute of the microneutralization test. The use of viral synthetic pseudo particles entail considerable advantages including the replacement of use of live virus in the analyses, which may also be performed in low-containment laboratories. The test will also be more versatile, adaptable to different types of viruses, and easier to standardize thanks to the use of synthetic particles. The innovative test, devised by VisMederi, will then be carried out on a very large number of samples, allowing its validation and, simultaneously, the determination of its robustness and effectiveness, in comparison with the classical tests. The project has a potentially high social impact on Public Health and on the growth of VisMederi, for which it will involve an important process innovation.

Project funded from Tender N. 3 RSI Por Creo Fesr 2014-2020

MAGIC-THERAVAX

The Magic-Theravax project, which VisMederi is partner in, aims at the creation of an evaluation platform of the efficacy of agents used against pathogens and tumours. VisMederi's knowledge in the evaluation of the efficacy of vaccines and molecules for therapeutic purposes will be applied to the validation of the technological platforms. These will enable faster and more accurate analysis than the routine tests for the determination of antibodies in biological samples for the evaluation of vaccines or in developing drugs. It will also be possible to analyse in a short time a large number of samples by reducing the analysis costs. It is estimated that the implementation of new technology platforms for serological testing allows a reduction of analysis time by up to 50%, with tangible benefits in terms of efficiency in the use of facilities and personnel costs, which could lead to a significant improvement in the ratio between EBITDA and net revenues.

Project funded from Tender N. 1 RSI Por Creo Fesr 2014-2020

UNAVIR

Current therapeutic approaches in the treatment of infectious diseases have as targets components or enzymes of the pathogen. This strategy, although successful in many cases, is however often compromised by the rapid emergence of drug-resistance. The innovative approach proposed by the Unavir project led by the University of Siena with VisMederi as a business partner is to exploit molecular cellular rather than viral targets. In this regard, recent studies have highlighted the importance of the RNA helicase DDX3 human protein in the viral replication cycle. Many viruses, including HCV, HIV, JEV, Dengue, West Nile and Chikungunya, exploit this protein and therefore it represents an attractive and innovative target. The project aims at developing a family of compounds with inhibitory activity against the DDX3 helicase activity recently patented, with the ultimate goal of identifying a clinical candidate for the treatment of rare diseases such as the aforementioned Dengue, West Nile Disease and Chikungunya. During this project, VisMederi will offer its support in the validation of in vitro tests for the evaluation of molecules, where human clinical isolates will also be used.

Project funded from the FAS Salute 2014 Tender, issued as part of the 1.1.2 line of PAR FSC (ex FAS) 2007-2013

INSIDE

This project, which VisMederi Research is a partner in, is aimed at the development of diagnostic and theranostic targeting based on nanosystems and / or engineered lymphocytes for the early detection and treatment of melanoma and multiple sclerosis. Through its participation in the Inside project, VisMederi Research aims at entering the broader market of contract research in the pharmaceutical field, linked to the development of drugs in the broader sense, expanding the scope of operations beyond the segment of vaccines.

S-AVRIFAC

The goal of the project is to develop and produce a GMP lot and get ready for the start of Phase 1 studies a vaccine not yet available against an orphan epidemic in Africa: invasive Non-Typhoidal Salmonella disease (INTS). INTS is an orphan disease (Orpha234648 code), which is estimated to cause the death of over 100,000 children a year, especially in sub-Saharan Africa. The disease is difficult to diagnose and can cause death by bacteraemia. AIDS patients are particularly at risk too. To get to vaccine development a special technology developed in Tuscany and called "Generalized Module for Membrane Antigens" (GMMA) will be used. Achille Sclavo Onlus Foundation in partnership with the University of Siena will coordinate the project, whose chief scientist is Dr. Rino Rappuoli, one of the foremost experts on vaccines at an international level. Under the project, VisMederi will develop the necessary tests to measure the immune response to the vaccine, required in clinical trials.

Project funded from the FAS Salute 2014 Tender, issued as part of the 1.1.2 line of PAR FSC (ex FAS) 2007-2013

Scientific publications

The research carried out by VisMederi in 2015 focused primarily on two areas of research:

- The evaluation of clinical evidence regarding the effectiveness of the influenza vaccine using serological tests (HAI, SRH and MN) and FACS for cell-mediated immunity evaluation;
- The characterization of *N. meningitidis* serogroup B and the prediction of *N. meningitidis* strain coverage of multicomponent meningococcal serogroup B vaccine (4CMenB) by using MATS (Meningococcal Antigen Typing System).

The importance of these research operations is proved by the publication of 11 scientific articles in the year 2015.

Torelli A, Giancchetti E, Piccirella S, Manenti A, Piccini G, Llorente Pastor E, Canovi B, Montomoli E.

Sea buckthorn bud extract displays activity against cell-cultured Influenza virus.

J Prev Med Hyg. 2015;56(2):E51-6.

Trombetta C, Piccirella S, Perini D, Kistner O, Montomoli E.

Emerging Influenza Strains in the Last Two Decades: A Threat of a New Pandemic?

Vaccines (Basel). 2015;3(1):172-85.

Prevato M, Cozzi R, Pezzicoli A, Taddei AR, Ferlenghi I, Nandi A, Montomoli E, Settembre EC, Bertholet S, Bonci A, Legay F.

An Innovative Pseudotypes-Based Enzyme-Linked Lectin Assay for the Measurement of Functional Anti-Neuraminidase Antibodies.

PLoS One. 2015;10(8):e0135383.

Giancchetti E, Torelli A, Piccini G, Piccirella S, Montomoli E.

Neisseria meningitidis infection: who, when and where?

Expert Rev Anti Infect Ther. 2015;13(10):1249-63.

Ahmed SS, Volkmuth W, Duca J, Corti L, Pallaoro M, Pezzicoli A, Karle A, Rigat F, Rappuoli R, Narasimhan V, Julkunen I, Vuorela A, Vaarala O, Nohynek H, Pasini FL, Montomoli E, Trombetta C, Adams CM, Rothbard J, Steinman L.

Antibodies to influenza nucleoprotein cross-react with human hypocretin receptor 2.

Sci Transl Med. 2015;7(294):294ra105.

Laurie KL, Engelhardt OG, Wood J, Heath A, Katz JM, Peiris M, Hoschler K, Hungnes O, Zhang W, Van Kerkhove MD; CONSISE Laboratory Working Group participants.

International Laboratory Comparison of Influenza Microneutralization Assays for A(H1N1)pdm09, A(H3N2), and A(H5N1) Influenza Viruses by CONSISE.

Clin Vaccine Immunol. 2015;22(8):957-64.

Eidem S, Tete SM, Jul-Larsen Å, Hoschler K, Montomoli E, Brokstad KA, Cox RJ.

Persistence and avidity maturation of antibodies to A(H1N1)pdm09 in healthcare workers following repeated annual vaccinations.

Vaccine. 2015;33(33):4146-54.

Lartey S, Pathirana RD, Zhou F, Jul-Larsen Å, Montomoli E, Wood J, Cox RJ.

Single dose vaccination of the AS03-adjuvanted A(H1N1)pdm09 monovalent vaccine in health care workers elicits homologous and cross-reactive cellular and humoral responses to H1N1 strains.

Hum Vaccin Immunother. 2015;11(7):1654-62.

Manini I, Domnich A, Amicizia D, Rossi S, Pozzi T, Gasparini R, Panatto D, Montomoli E.

Flucelvax (Optaflu) for seasonal influenza.

Expert Rev Vaccines. 2015;14(6):789-804.

Trombetta CM, Perini D, Vitale L, Cox RJ, Stanzani V, Piccirella S, Montomoli E.

Validation of Single Radial Haemolysis assay: A reliable method to measure antibodies against influenza viruses.

J Immunol Methods. 2015;422:95-101.

Ambati A, Valentini D, Montomoli E, Lapini G, Biuso F, Wenschuh H, Magalhaes I, Maeurer M.

H1N1 viral proteome peptide microarray predicts individuals at risk for H1N1 infection and segregates infection versus Pandemrix(®) vaccination.

Immunology. 2015;145(3):357-66.

Company partnerships and investments

The synergy with the University of Siena continued in 2015, both within the European projects and in the research operations of the Molecular Epidemiology Laboratory (EpidMol), directed by Prof. Emanuele Montomoli. Deep relationships of collaboration continued with the Toscana Life Sciences incubator in Siena where VisMederi located since 2009. Below, in detail, the main synergies activated during the year.

UNIVERSITY OF SIENA

Collaborating with the University in research projects, VisMederi has found in the University of Siena an important range of potential talents in the form of Ph.Ds. in the company. The company has in fact granted a loan to the PhD in Life Sciences for the year 2015, helping to support the training of human capital in the territory. Four researchers carried out their PhD in VisMederi, helping to enrich the wealth of knowledge and expertise of the company. During the year, VisMederi has collaborated on several initiatives promoted by the University, from popular science activities (Researchers' Night 2015) to support activities to active job search (Career Day).

TOSCANA LIFE SCIENCES

Since its establishment in the incubator, VisMederi collaborates in popular science projects promoted by the TLS Foundation

and addressed to young people. In 2015, in particular, the VisMederi management and researchers have contributed in several meetings with high school students of the area as a positive enterprise case history. Active collaborations are also in progress with other TLS incubated and affiliated companies, including two partnerships for participating in calls for funding for R & D. VisMederi participates in the capital of two companies, both pertaining to the Toscana Life Sciences incubator: the captive company VisMederi Research and the subsidiary company Accurange.

VISMEDERI RESEARCH

Established in 2014, VisMederi Research Srl, is an innovative startup founded to carry out both basic and applied research on behalf of VisMederi. In the first year of operation, the company has focused on the development of new experimental protocols to support

the development of natural and synthetic molecules and of biological processes in order to ensure the highest test personalization.

ACCURANGE

VisMederi holds part of the share capital of Accurange Srl, a service company in the field of Life Sciences. The company specializes in the calibration, maintenance and regulation of laboratory equipment, with special reference to micropipettes and volume dispensers in general. Through the adoption of the ISO 9001 quality system and validated procedures, Accurange guarantees the highest quality standards by providing all documentation in accordance with GLP. In 2015, the company has continued to provide services to companies in the sector using the best instruments available on the market and employing highly qualified personnel, in compliance with EN ISO 8655.



Economic and financial indicators

The year 2015 has been characterized by VisMederi's major commercial expansion in its reference sector of Vaccines Assessment: new geographical markets have been reached and the number of customers served worldwide has increased.

In order to increase our market share and to consolidate our top position achieved to date, we have implemented new strategies to create greater value for our customers.

The year that has just ended also saw the company engaged in important Research and Development projects, in line with the principles of continuous improvement in the field of Public Health that characterize our vision. The R&D programs undertaken during the year will be developed for the biennium 2016-2018 and will ensure the development of important process innovations that will dramatically improve the wealth of knowledge and technology at our disposal.

From a financial point of view, the year 2015 has been characterized by excellent performance, with revenues and net profit

in sharp increase over the previous year, revenues up 91% and EBITDA of more than 42% of net sales. From a structural viewpoint, the debt and equity ratio has been fully respected and in line with that reported in previous years, with a debt and equity ratio of about 39% and a degree of capitalization of 0.73. Profitability analysis reveals great values of capital profitability, with an ROE of 42%, ROI of 38% and ROS of 41%. Great degree of liquidity and company solvency are testified by the high values of the correlation indicators as the Current Ratio (2.66) and Acid Test (2.59). The net debt in relation to gross operating margin (EBITDA) is totally balanced, with a value of 0.21, attesting capacity of gross cash flow to debt coverage.

The effectiveness of management is entirely satisfactory. Revenues grow at a higher

rate of cost, as it can be seen by the trend on EBIT (Operating Profit Margin) margin that grows at a constant rate, generating over 40% of operating income by EUR turnover. Great attention is paid to cost control, which in a context of rapid growth can sometimes rise disproportionately. The rates of incidence on turnover of the main variable cost items linked to the production strictly remain constant over the previous year.

These results are important numbers for VisMederi, representing a new starting point for the future, knowing that we have successfully created value for our customers and all our stakeholders.

Simone Paletti

Finance Specialist and Management Control

Index	2015	2014	2013	2012
EBITDA / Net Sales	42,48%	22,15%	59,80%	13,21%
ROE del capitale netto di periodo	42,38%	16,99%	86,46%	25,73%
ROI	38,67%	17,82%	75,82%	19,88%
ROS	41,42%	20,73%	59,33%	10,07%
ROA	59,79%	37,14%	148,78%	74,42%
ROCE	53,01%	24,02%	127,11%	49,61%
Grado di capitalizzazione	0,73	0,74	0,60	0,41
Operating Profit Margin Normal (OPM)	41,42%	20,73%	59,33%	10,07%
Net Profit Margin (NPM)	33,11%	14,67%	40,36%	5,29%
Debt ratio	27,04%	25,75%	38,30%	50,40%
Debt To Equity	0,40	0,36	0,70	1,47
Indice di indipendenza finanziaria	1,37	1,35	1,68	2,47
Indice di copertura delle immobilizzazioni	0,45	0,76	0,33	0,18
Indice di Autocopertura delle immobilizzazioni	2,13	1,21	2,89	4,82
Indice di solvibilità totale	3,49	4,39	2,52	1,81
Current Ratio	2,66	1,95	2,07	1,74
Acid Test	2,59	1,80	2,05	1,70

Principal economic and financial indicators

DEBT TO EQUITY

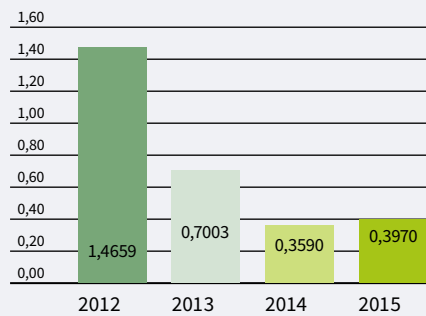


Fig. 1

CURRENT RATIO

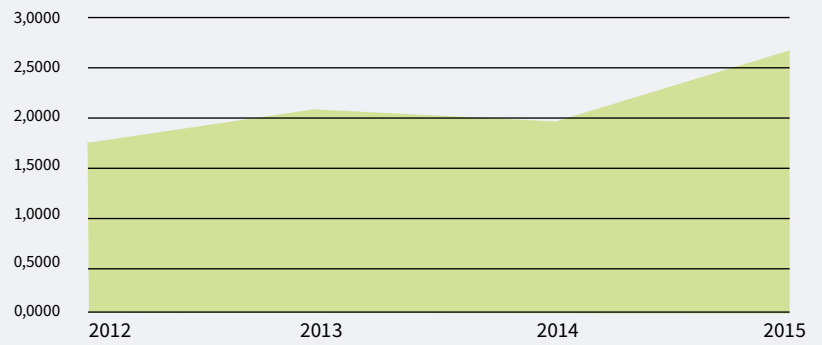


Fig. 2

ROE

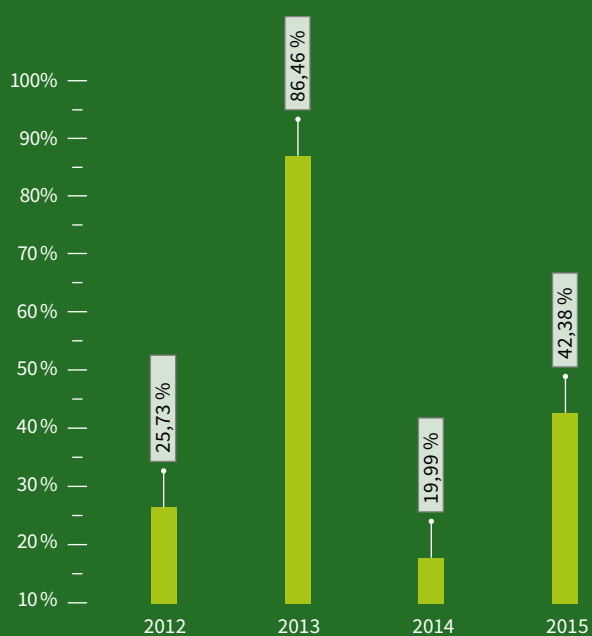


Fig. 3

ROI

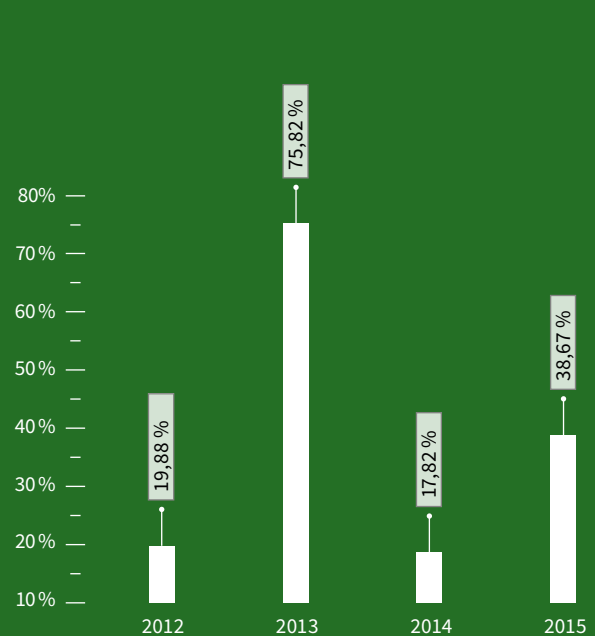


Fig. 4

EQUITY

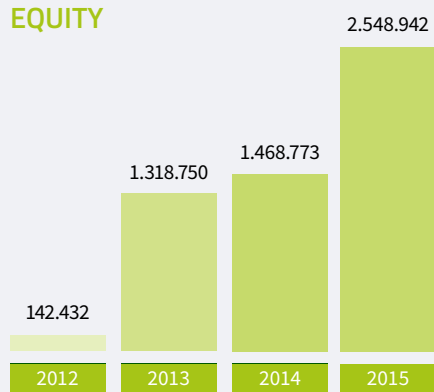


Fig. 5

ACID TEST

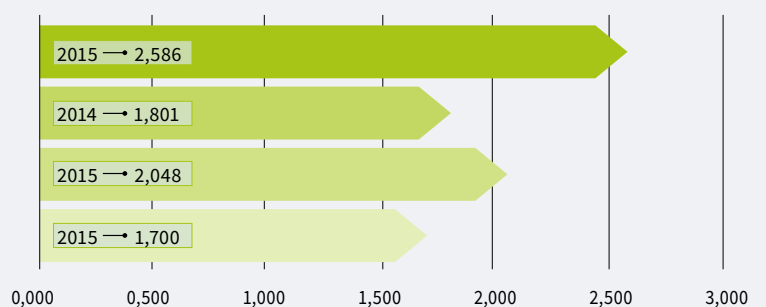


Fig. 6



VisMederi Srl

Strada del Petriccio e Belriguardo,35
53100 Siena
tel. 0577 381253
fax. 0577 381258

info@vismederi.com
www.vismederi.com

