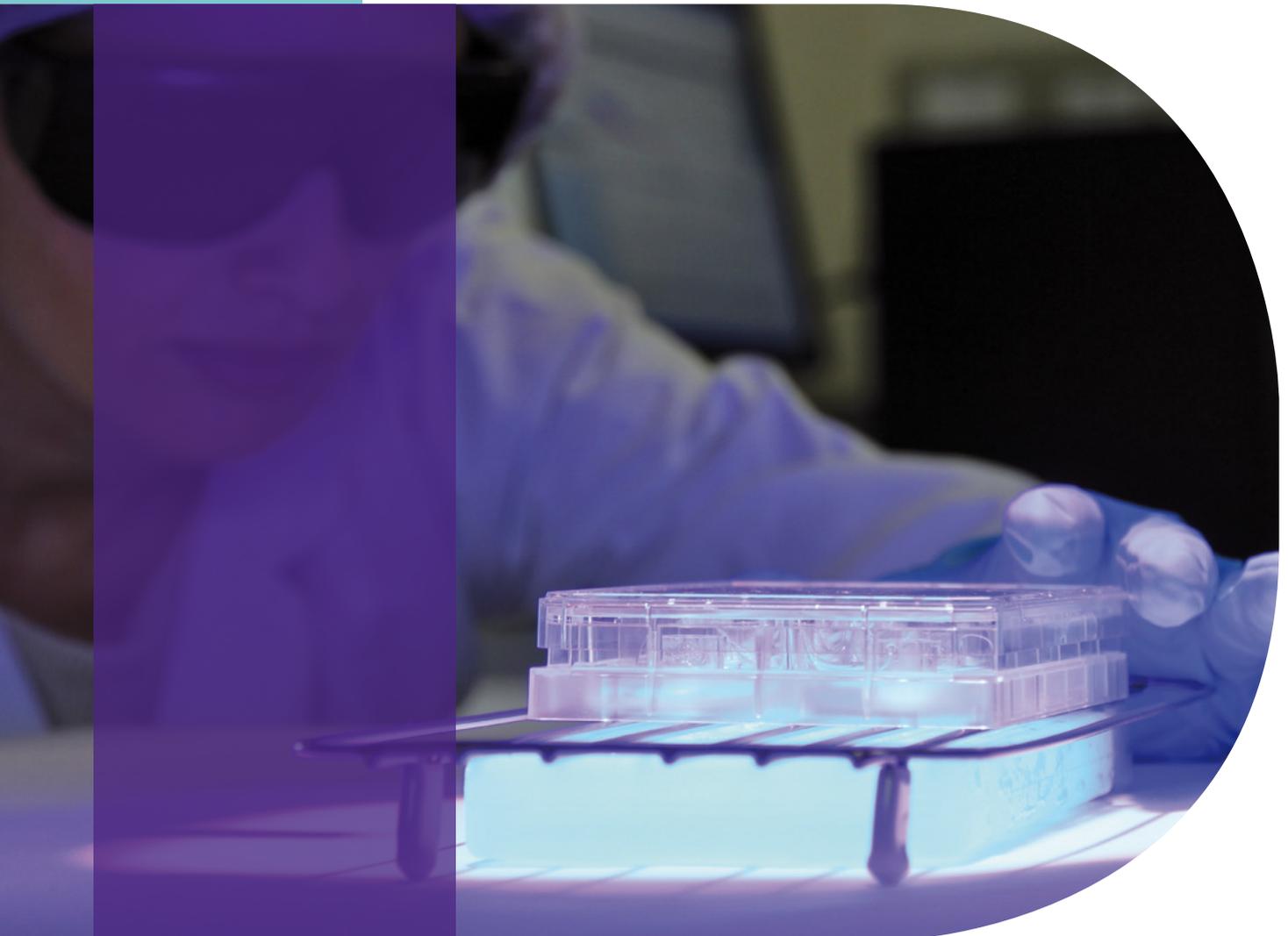


VitroScreen

Leading Innovation in Pre-Clinical Testing

Leading Innovation in Pre-Clinical Testing



A microscopic view of cells, likely cancer cells, showing a dense network of cells with prominent nuclei and some larger, more rounded cells. The image is overlaid with a blue and purple color scheme.

**almost 20 years
of growth
through innovation
& investment
in research**

In Vitro Excellence

VitroScreen was established in 2001 by Marisa Meloni, PharmaD, PhD in biophysics. At that time, she had already accumulated a wide experience and deep knowledge in R&D and pre-clinical testing management. She had also the opportunity to further consolidate her professional background as Visiting Professor at university level for safety assessment. Her idea was as simple and clear as it was innovative: testing on 3D human tissue models is more efficient, predictable, reproducible and sustainable than testing on animals or humans.

VitroScreen is proud to have been one of key player in the introduction and acceptance of *in vitro* pre-clinical studies.

This was a visionary idea. Looking back at that time, it seems incredible that at the beginning of the 21st century not many others had the foresight to understand that 3D human tissue models would become indispensable to life science. Today 3D human tissue models are applied in a variety of industries, including cosmetics/personal care, household products, chemicals, nutritionals and pharmaceuticals.

Through the years, VitroScreen has consistently and continuously invested in research, in enlarging its facilities; in strengthening its human capital with more and more team members, most of them endowed of PhDs from strongly reputed universities in Europe; in developing its customers' portfolio, presently extending from Europe

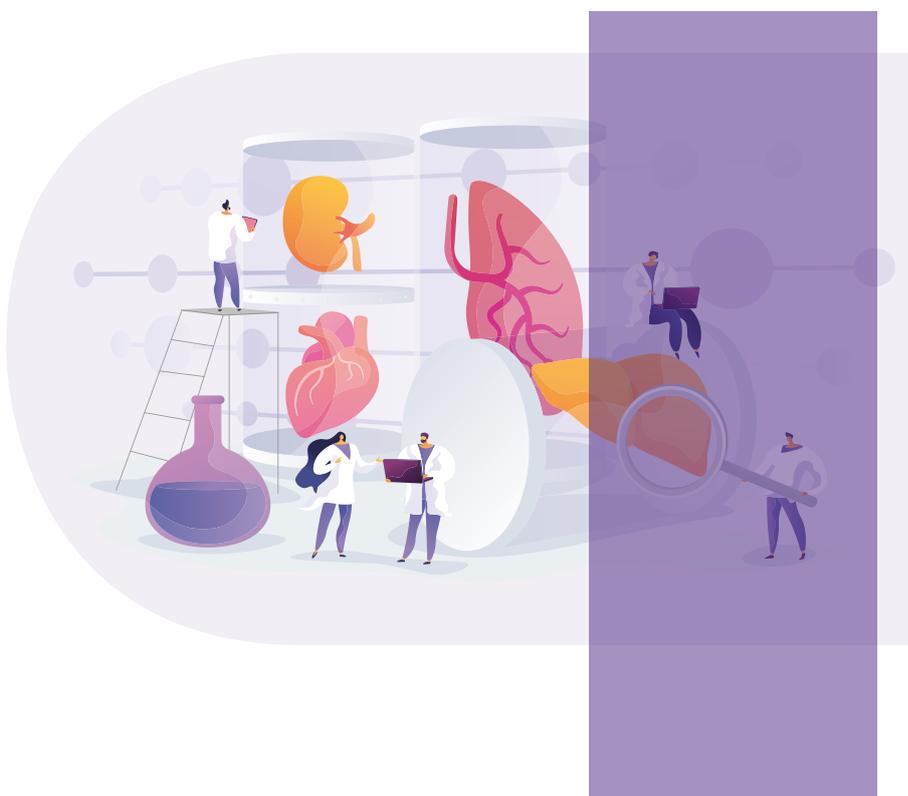
to North America and East Asia; in pursuing scientific partnership that creates values in life science for people's wellbeing.

VitroScreen believes that 3D reconstructed, human cells-based tissues such as spheroids and organoids models represent the new millennium's reference and their wide use has and will further change the R&D and pre-clinical testing in life sciences.

By staying true to its core values of excellence and quality and combining them with versatility and responsiveness to its Customers, VitroScreen is proud to have been one of key player in the introduction and acceptance of *in vitro* pre-clinical studies.

In the midst of a social, economic and humanitarian crisis, VitroScreen is looking ahead, preparing for different scenarios and actively shaping its own fate. In anticipating the new post-crisis world, new Customers' needs and new habits are carefully analysed. The crisis will shift consumers' attitudes, creating elevated awareness and altered beliefs about health, personal care and the environment.

VitroScreen's team is thoroughly committed to be a reference partner,

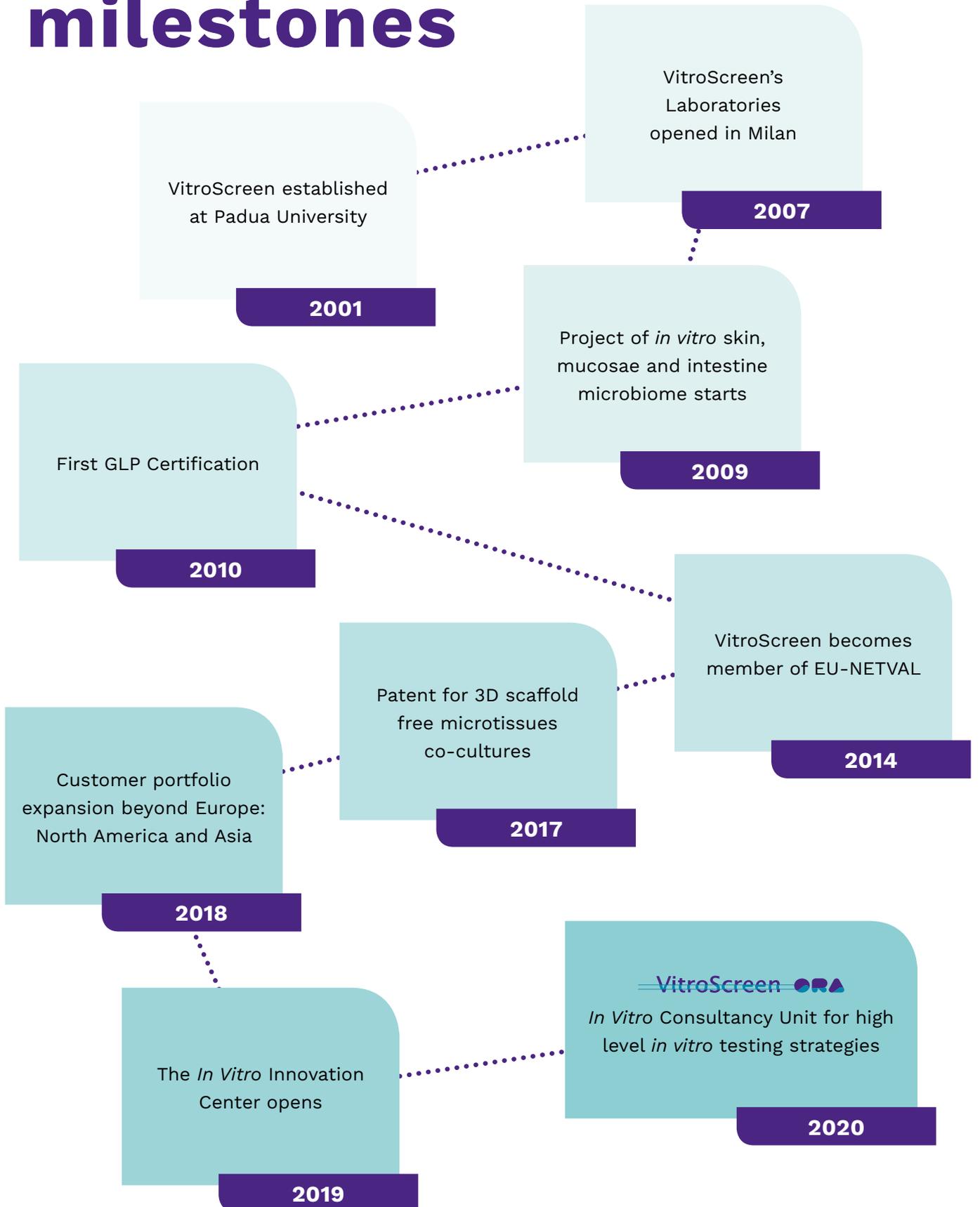




fully consistent with and faithful to its core values of scientific robustness and relevance to support its Customers. We pledge to continuously explore new and almost unknown topics, new needs and to actively participate in what we anticipate as a paradigmatic shift in the community we live in.

Within this framework, a new and more agile communication process with all our stakeholders has been implemented, including a new and more up-to-date website and a more consistent use of social media. In particular, the new website aims to build a truly new narrative highlighting our life-long commitment to provide pre-clinical 3D *in vitro* approaches with a stronger and stronger scientific dignity. Along this line, we wish to feature how our consistent focus to continuously develop new, robust, predictive models with the widest applications in the fields of personal care and personal medicine has eventually brought us to recently open our new flagship: VitroScreen's Innovation Center.

VitroScreen's milestones



OUR VISION

We strive to be recognized as a highly reliable and customer-focused partner for pre-clinical *in vitro* testing. We want to take an active role and contribute to the improvement of the wellbeing of our community and make the environment we live in a safer and better place. We are aware that the world around us will continue to present us with new challenges and that is the reason why we strive to introduce innovative, human-relevant and robust experimental approaches.

OUR MISSION

- To provide the most predictive, robust, biologically relevant and reproducible pre-clinical testing strategy;
- To develop and validate new *in vitro* assays and 3D reconstructed human cells-based tissues, spheroids and organoids models for innovation strategies;
- To deliver robust data analysis, secured information management and in-depth reporting;
- To be an innovative player supporting the enhancement of personalized care and the study of the interaction between bacteria and the human body through an ever more robust approach based on *in vitro* science;
- To become, over the coming years, a data driven research enterprise.

OUR VALUES

- We want to measure ourselves by the value we add and by our ability and commitment to go the extra mile in delivering the best *in vitro* solutions;
- We want to develop a more efficient technology platform to better fulfil our Customers' needs in a fast-paced market environment;
- We want to maintain our strong reputation built on service quality, innovation capabilities, and on our ability to use our technical knowhow and creativity to anticipate Customers' needs;
- We want to attract and motivate team members by offering them stimulating opportunities to create and capture new and robust developments in life science;
- We want to be an organisation that enables people to respond fast, achieve results and provide valuable addition to our business;
- We want to be close to our Customers and to continually strengthen the bonds that connect them to us through research and participation in the advancement of scientific knowledge in life science;
- We want to fulfil our promise and behave ethically.

VitroScreen's expertise

VitroScreen invests every year more than 20% of its turnover in research and development, integrating and expanding new areas of expertise. High-tech equipment and a highly skilled team continually raise VitroScreen's level of performance and contribute to endless innovation.

We hire our team members for their skills and expertise and we nurture them with high quality on-going training on the job, continuously strengthening their commitment to our values of ethics, team spirit, and openness.

VitroScreen has so far developed 500+ tissue-based experimental models for safety and efficacy testing: the protocols are adapted and customized to assess either ingredients or finished products for the cosmetic, pharmaceutical, medical devices and nutritional industries.

In 2019 VitroScreen joined an international and multidisciplinary consortium of R&D performing SMEs that brings together all the technology and experience required to develop and validate a new approach for the treatment of *S. aureus*-infected diabetic wounds.

VitroScreen's team is thoroughly committed to be a reference partner, fully consistent with and faithful to its core values of scientific robustness and relevance to support its Customers.



Today, VitroScreen is organized in four different, although seamlessly integrated, Business Units:

1. GLP certified Laboratory

It provides toxicology services for bio-equivalence, hazard identification and regulatory classification in different industrial contexts: chemicals, pharmaceuticals, pesticides and plant protection products, cosmetics, veterinary drugs, novel foods, polymers, special mixtures, recycled materials, biocides.

VitroScreen has been GLP certified (certificate 2018-13 currently under renewal) since 2010 for *in vitro* Toxicology Studies in the following OECD areas:

- Toxicity studies (OECD area 2),
- Bio-compatibility studies (OECD area 9.3),
- Pharmacokinetics/Toxicokinetics, and ADME studies (OECD area 9.7).

2. Pre-Clinical Expertise

The Pre-clinical Expertise Unit offers state of the art technologies, off the shelf 3D human tissues, mucosae and micro tissue models with very high proximity to human physiology. Customers include pharma, cosmetics, food, chemical industries, university labs and research institutes from all over the world. Through a robust, reproducible, predictive multi-endpoints approach the Pre-Clinical Expertise Unit is committed to deliver strong weight of evidence of the impact of drugs, consumer products, chemicals and environment on different body barriers and organs. Taking advantage on its unique expertise on the use of 3D human skin models and state-of-the-art equipment for relevant multiparametric study protocols, VitroScreen does not simply perform and deliver a test, but rather a completely new and different testing approach leading to a strong body of evidences.

3. In Vitro Innovation Center

VitroScreen's *In Vitro* Innovation Center, opened in 2019, leverages the experience accumulated in almost twenty years of research on 3D human tissues and microtissues, and is driven by the strongest commitment to innovate and by the aspirational effort to outstanding and acknowledged results in pre-clinical models.

The Innovation Center operates as an outsourcing unit for R&D projects in areas as

diversified as body barriers and body organs for the pharma, cosmetic, nutritional, chemical industries. Through the successful integration of expertise and investments on cutting edge technology, VitroScreen Innovation Center's core focus includes:

- **VitroScreen ORA®** (Organoids Research Applications): specialized in the research, development and production of standard and customized, human cells-based 3D scaffold free spheroids and organoids. VitroScreen ORA® supports the efforts and investment at industrial level to introduce personalized care and personalized medicine, thus becoming an ideal partner to develop next generation dynamic homeostatic and disease 3D models that increase the power to predict the efficacy of personalized treatments.
- **Microbiome Research:** by focusing on the host response and on bacteria, VitroScreen has continuously and consistently invested in clinically relevant models to assess bacteria's interactions with living tissue/organs so to mimic real sites where tissue and microbiota interactions might occur. VitroScreen's services are based on higher biological relevance and reproducibility suitable to address this hot topic in different industrial contexts.
- **Histo-Morphology Platform:** coherently and consistently with the requirement of our multiple-endpoints approach where morphology coupled with protein expression and localization is an essential part, VitroScreen has significantly invested in high tech solutions. Recently, it has purchased a pipetting robot system to optimize and speed up the microtissues production and a Leica Thunder Imager, a new generation LED-based, green microscopy, becoming the first Italian CRO to offer high-speed, high-quality imaging of thick 3-dimensional specimens. Leica Thunder Imager allows real-time fluorescence imaging of 3D tissue sections and the acquisition of rich, detailed images of thick tissues, free of haze from out-of-focus blur. The histo-morphology platform delivers morphological analysis on whole mount samples avoiding paraffin blocks and providing high content imaging, Z-stacking and 3D rendering.

4. In Vitro Consultancy Unit

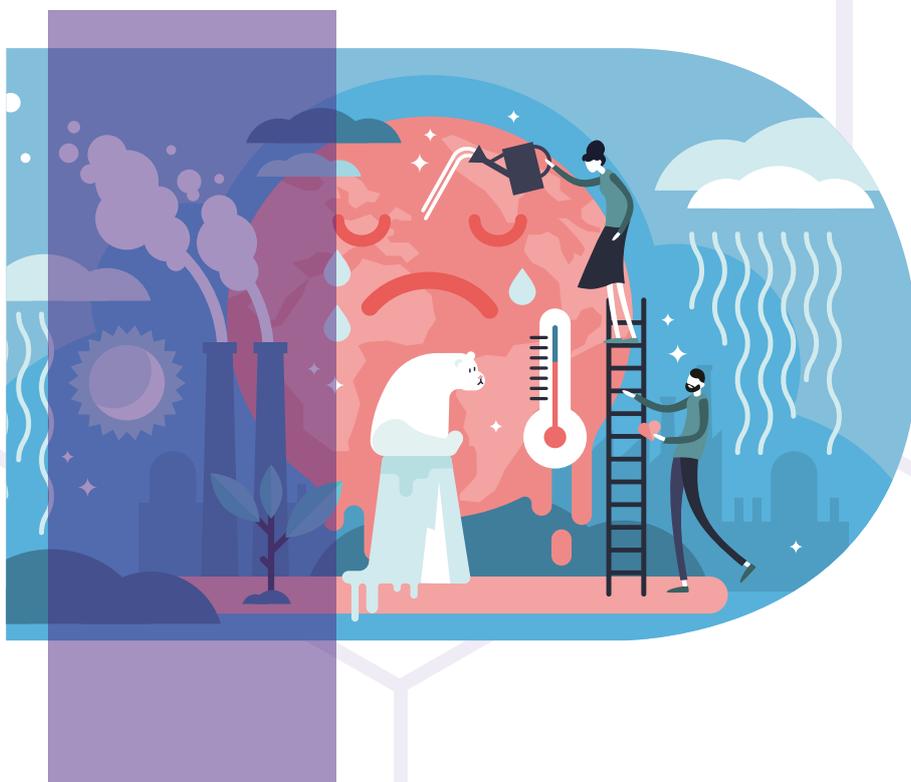
Since its establishment in 2001, VitroScreen has been committed to the use of Alternatives to animal testing. Nowadays the identification of Adverse Outcome Pathways (AOP) and the development of Integrated Approaches to Testing and Assessment (IATA) support the concept of Evidence-Based Toxicology to better capture the effects of chemicals, consumer products and the environment on human health.

Consistently with the new safety requirements introduced in many Regulations, an expert and deeper knowledge of the applicability domain of *in vitro* testing approaches is today highly recommended.

VitroScreen is proud to announce the establishment of the **In Vitro Consultancy Unit** with the mission of providing its Customers with high level *in vitro* Testing Strategies for Hazard and Risk Assessment, coupled with an independent pharmacotoxicological expertise judgment.

The Consultancy Unit's deliverables focus on a more accurate, more ethical approach and supports Customers in high level strategies related to regulatory *in vitro* toxicology for a sustainable classification of chemicals (including mixtures and polymers), recycled materials, pesticides, agrochemicals and in the safety assessment of pharmaceuticals, medical devices and cosmetics.

The Consultancy Unit avails the partnership with **ToxHub**, to support Medical Devices industries facing the new MDR and, in particular, to comply with Rule 21, and **SenzaGen**, to address skin and respiratory sensitization potential by the high predictive and accurate GARD® technology. Through these partnerships, VitroScreen aims to further contribute to a sustainable and ethical development of pre-clinical testing, based on human relevant data and mechanistic high content information. In particular, the GARD®air is the only *in vitro* test available for the identification of respiratory allergens and can highly support research on environmental toxicology, a definitively hot topic related to urban pollution.





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