



Artelia's research focused on design and sizing methods for industrial installations, on environmental and risk management, and on innovative handling and lifting systems.

Artelia is developing **capacity analysis** methods and tools adapted to new industrial processes. In 2011, a complete program was developed for sizing a cosmetics production site, covering all its primary functions from the storage of raw materials and conditioning articles through to production (taking into account ATEX requirements) and the storage of bulk and finished products.

Our extensive activity in the field of multi-site project management in the Oil & Gas retail sector requires us to continuously come up with innovative methods and technologies on behalf of our clients. For this reason, Artelia has set up a "Retail Oil & Gas Centre of Excellence and Innovation" dedicated to Oil & Gas distribution technologies and contract procedures. In 2011, Artelia also developed a complex algorithm that automatically generates activity forecasts in financial and planning terms for a host of sites in numerous countries.



Christophe Tahon
Director of Life Sciences
Industry & Logistics Division

In the domain of life sciences, the capacity analysis tools we have developed allow us to elaborate master plans based on our clients' multi-product, multi-site, and multi-country business strategies. These simulation tools, validated for a typical year and adapted to the respective field (biotechnologies, pharmaceuticals or cosmetics), enable us not only to assess our clients' needs in terms of process equipment, utilities and storage facilities, but also to propose developments related to the organisation, human resources and laboratories. Our capacity analysis tools, in conjunction with constraints of best production practices and theoretical block diagrams, are the base for designing building surface areas and evaluating the feasibility for site implementation. Sufficiently malleable to be updated regularly, they allow us to forecast investment and acquisition schemes, or even to transfer an activity from one site to another across the globe. As such they are genuine strategic decision-aid tools.

To improve its expertise in the **design of laboratories and complex testing facilities** in sensitive environments, Artelia has developed methods in the framework of prototype applications for preventing chemical and biological risks in installations using a wide range of pathogenic biological agents or toxic chemicals, especially rare toxins, at various concentrations. Another line of research involved modelling the vibratory environment of a laboratory to ensure compatibility with extremely precise processes.



Joseph Dekkers
HQSE Director
Artelia International

For the food processing and biotechnology industries, Artelia elaborated on **safe air treatment** methods with a view to improving management of the production environment.

in the nuclear sector in particular, and specific **handling and lifting** processes and equipment (for replacing flare towers or handling cables, for example).

Heavy demands were also placed on our **industrial multi-site activity** in terms of innovation, with respect to both project management methods and the technological solutions to be implemented on site.

Research has also been carried out on various subjects in the **industrial environment** field in the context of in-house projects or during specific project assignments. These included polluted soil or industrial waste confinement technologies, a floating cover system for brine tanks, and evaluation of the risks of gas leaks from submarine pipelines.

Via its subsidiary SPRETEC, Artelia has developed **complex mechanical and thermal sizing** programs for applications

INDUSTRY