

# URBAN DEVELOPMENT

Society's demands and state-of-the-art techniques are continuously evolving in experimental spaces we call cities. The need for research and innovation is therefore both considerable and constantly changing. Since dialogue underpins effective solutions more so than in other fields, we are contributing to this research effort by closely involving our clients and partners.

Many elected officials are aware of the relevance of increased sustainability when it comes to developing their towns and cities. We must develop new methodologies and concepts in order to accompany them in the related decision-making process (help in defining objectives and expectations, assistance in managing the change with respect to all players involved, etc.). It is also essential to monitor the latest developments, feed back information and maintain dialogue to make sure that our innovations will be more effective. As an example, Artelia worked on a collaborative research project within the European SEEN network to define pertinent indicators concerning sustainable urban development. Our teams have also carried out research specifically focused on sustainable strategies for water management practices, public lighting systems and the redevelopment of brownfield sites.



**Bernard Couvert**  
Project Director  
Urban Development  
& Transportation

Towns and cities must meet a vast range of interconnected requirements to provide the daily living conditions for more than half of the world's population.

Today, urban spaces are conceived as a whole and not on a piecemeal basis so as to avoid the mistakes of the 20th century. An important research topic for Artelia is to define an **innovative, systemic urban eco-design approach**, combining engineering, decision-aid and communication methods and tools, and a wide range of expertise that meet the demands of sustainable development. In particular, a participative co-construction approach involving local stakeholders has been developed for preparing assessments and forecast analyses.

The notion of **urban densification** is often poorly defined, misunderstood and badly accepted. It sometimes lacks concrete expression in terms of organisation, governance, and spatial and temporal planning. Artelia is developing methods and tools for analysing, designing and building well-accepted high-density areas on the basis of prototypes.

In the framework of the RESILIS project, Artelia is working in partnership to develop a systemic approach to the **vulnerability and resilience of urban**



**Laurent Vigneau**  
Director  
Regional Development  
& Mobility

The challenge these days with respect to urban spaces is to orchestrate a wide range of expertise, insights, scales and stakeholders, and to ensure that these are consistent with each other to the benefit of everyone concerned. Urban engineering plays a major role in the emergence of this new speciality and Artelia has gained a strong lead in this field by bringing together more urban experts than anyone else (there are nearly 80!) and by organising innovation on the basis of their shared skills. Indeed our most innovative proposals have been formulated by joining together the fields of urban development, the environment, mobility, tourism, leisure and culture, and urban project management. The urban eco-design resulting from this approach is now an Artelia "signature" that we are continuously fine-tuning. It is both a culture and a method that offers our clients and partners a comprehensive, optimised and effective analysis, enabling them to enhance our towns and cities through improved urban development projects.

**areas** that are increasingly threatened by a variety of risks, increasingly vulnerable owing to the greater stakes involved and the complexity of interactions between different systems, as well as less and less tolerant to malfunctions.

To improve the efficiency of **waste water treatment** in major cities, Artelia has contributed to the development of innovative processes for reducing sludge, and helped to optimise the sizing of complex delivery structures (using a scale model) and energy consumption.

Work is also continuing on the development of innovative **property management** methods and tools for **urban water networks**.

