Our BUSINESS LINES

PROJECT MANAGEMENT

- General coordination
- Organisation, supervision and scheduling
- Risk management
- Quality control

ENGINEERING

- Socio-economic and institutional studies, master plans
- Feasibility and programming studies
- Design and construction supervision
- Assistance to owners
- Technical and economic studies
- Statutory and safety studies
- Engineering services for design/build projects

CONSULTANCY, AUDITING AND TRAINING

- Market surveys
- Financial engineering: financing and cost recovery
- Assistance with PPPs (Public Private Partnerships)
- Technical, operational, social and environmental due diligence audits
- Technical skills transfer in the framework of engineering, consultancy or project management assignments
- Assistance with operation and maintenance
- Customised technical training

The ARTELIA group

35
BRANCH OFFICES
IN FRANCE

50
INTERNATIONAL
OFFICES IN
40 COUNTRIES

CERTIFICATIONS
ISO 9001-2008
ISO 14001
OHSAS 18001

QUALIFICATION
OPQIBI

ARTELIA

Coteba & Sogreah, same team, enhanced expertise

www.arteliagroup.com

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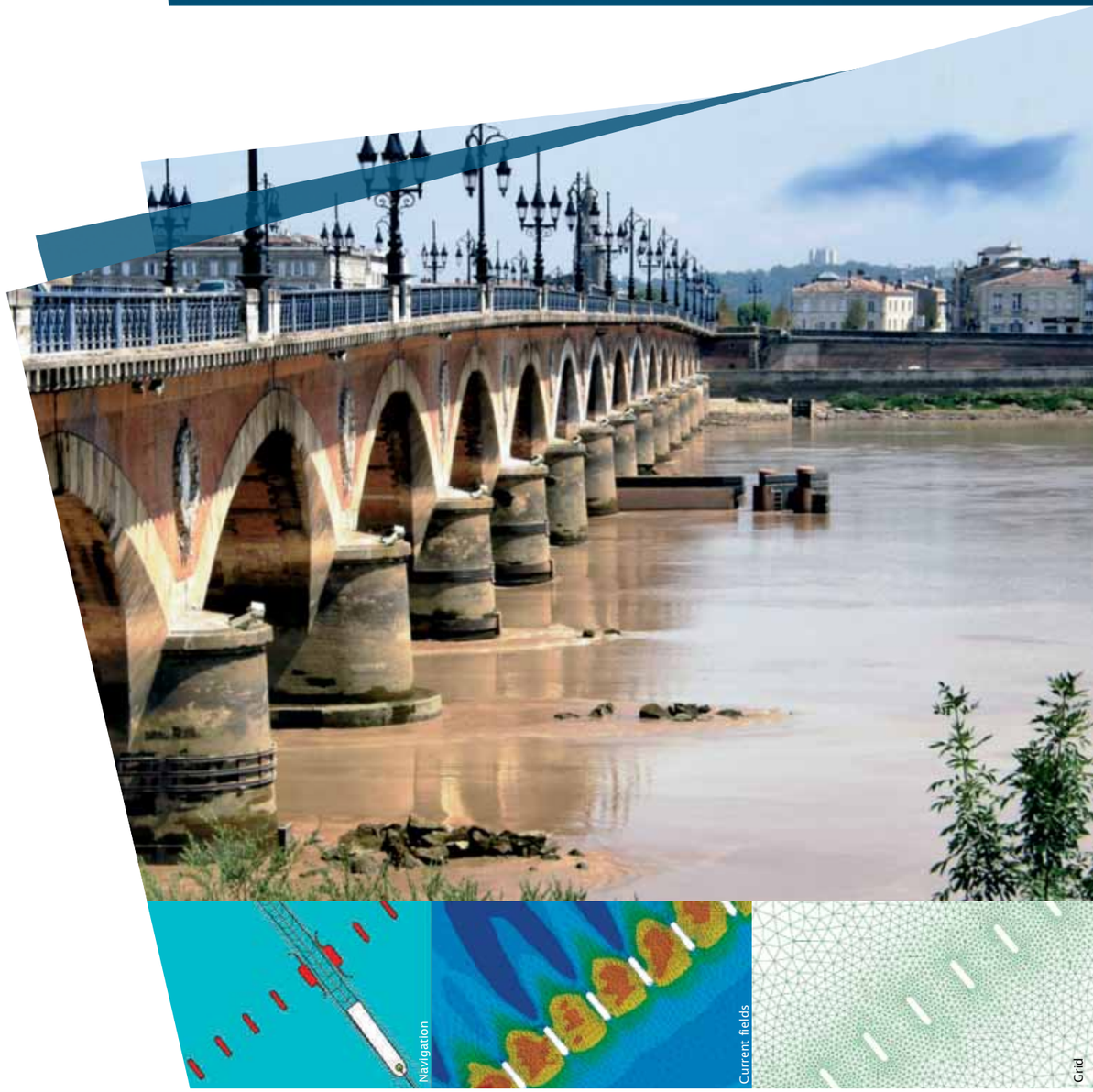
NUMERICAL SIMULATION OF YOUR PROJECTS IN THE FIELDS OF WATER AND THE ENVIRONMENT



Rivers and canals ▮ River corridors ▮ Urban runoff ▮ Lakes and lagoons ▮ Estuaries ▮ Shore ▮ Sea and coastal areas ▮ Industrial flows ▮ Subsurface flows

ARTELIA

ARTELIA,
Formed from the merger of Coteba and Sogreah, is a centre of excellence in modelling. Our specialists are accustomed to using operational models adapted to all levels of complexity.

OUR PROJECT ASSIGNMENTS

- Model-based engineering studies
- Construction, calibration and validation of dedicated models
- Model audits
- Software development and numerical analyses
- Installation of software and models on clients' hardware
- Training
- Telephone and on-site assistance, maintenance
- **Commissioned** R&D

OUR RESOURCES

- 1D with flood cells, 2D and 3D models
- Physical scale-model testing laboratory
- GIS, remote sensing
- Dynamic visualisation and virtual reality
- Computation servers
- Collaborative working environment

OUR SOFTWARE

Mascaret *	Pharos
Telemac *	Divine*
Ecoperm *	Bouss-2D
Hec-Ras	Unibest
Carima *	Genesis
Capris *	Smc
Cavalcade *	Cormix
Canoe *	Diodore
Ulis *	Portsim
Modflow	Simflex
Feflow	Shipmooring
OpenFOAM	Arena
Swan	Mike Flood

** software developed by Artelia or to which Artelia contributes*

Artelia investigates all fields of application of numerical modelling of flows in natural and industrial environments and innovates on a daily basis in order to meet its clients' needs and provide them with the most advanced methods and tools available, at the cutting edge of research.

Our experts are familiar with the most popular software tools available on the market, enabling them to propose the most appropriate modelling procedures while taking full advantage of existing tools and models.

MODELLING AT THE SERVICE OF YOUR PROJECTS

- Regional development
- Development of aquatic environments (rivers and alluvial valleys, estuaries, lake and lagoon environments)
- Natural risk management
- Hydrological forecasting (floods and dry-weather flows)
- Water resources management
- Hydropower production
- Industrial pipes and hydraulic networks
- Navigation and harbour development
- Morphology and hydrosedimentary studies of coasts and rivers

OUR HYDRAULICS SPECIALISTS INNOVATE

- Pioneers in numerical modelling (since 1960)
- Experts recognised by the international scientific community
- Several thousand references in numerical modelling
- In-house skills in developing computational hydraulic software
- Feedback from field applications
- Enhanced coupling of numerical and physical models

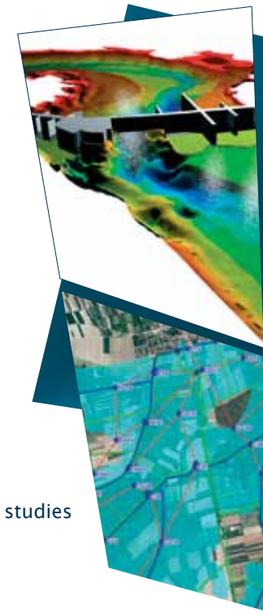
WE MODEL ALL COMPONENTS OF AQUATIC ENVIRONMENTS

- Hydraulics
- Sedimentology
- Water quality, pollution and contamination
- Thermal and saline plumes
- Wave propagation and disturbance in confined waters
- Interaction of surface water with aquifers

Selected fields of application...

CIVIL ENGINEERING HYDRAULICS

- Detailed simulation of turbulent flows and recirculation eddies
- Modeling of scouring phenomena
- 2D, 3D and physical modelling approaches
- Design, sizing and analysis of the stability and/or efficiency of structures
- Impact of buried structures on aquifers: car parks, canals, geothermal installations



WATER RESOURCES

- Management and protection of aquifers and polluted sites and soils
- Modelling of dry-weather flows and aquifer-river exchanges
- Impact assessments and risk studies concerning effluent recirculation
- River basin management

FLOODING

- Maps of flood-prone areas, flood-risk prevention plans, safety studies for dams and embankments, impact assessments, statutory studies
- Design of hydraulic development schemes and protection works in high-water and low-water beds
- Hydrology, river overflows, water table rises, urban runoff,
- Dam break and dike failure waves

PORT AND COASTAL DEVELOPMENT

- Forecasting and reproduction of water levels, 2D and 3D current patterns, salinity, temperature
- Wave propagation, extreme conditions, wave disturbance
- Hydrosedimentary studies of estuaries, bays, lagoons, shores and ports
- Design and impact of port development works
- Navigation, mooring, traffic
- Marine and coastal submersion
- Sea water intakes and outfalls

Artelia's experience in coupling models, together with the multidisciplinary skills of its engineers, guarantee an integrated approach of the highest quality.

ARTELIA, a signature for your projects