

# SARC

MARITIME SOFTWARE AND SERVICES



## THE COMPANY

SARC, which is an acronym for *Scheepsbouwkundig Advies en Reken Centrum* (Naval Architectural Software and Engineering Centre), was founded in 1980, when the computer age was still in its early days. Starting with simple programs for tables of hydrostatic data, tank sounding tables and hydrostatic stability calculations, SARC has ever since been developing new software, investigating and implementing new techniques. Today SARC employs a dozen trained and experienced naval architects, involved in software engineering, software support and project management. To offer state-of-the-art solutions, SARC is continuously investing in research and development, which is reflected by a number of papers in peer-reviewed journals and conference papers.

## STANDARD SOFTWARE

SARC's standard software is marketed under the brand names PIAS (Program for the Integral Approach of Ship design) and LOCOPIAS (Loading computer software for onboard use). Where applicable, this software complies with the latest legislation, IMO directives and classification societies demands. PIAS offers a wide variety of modules for modelling and analyses, where the modules Fairway (hull design and fairing), Layout (decks, bulkheads and compartments) and Probdam (probabilistic damage stability) stand out in particular for their advanced applied methodology. PIAS is in use now by more than one hundred organisations, LOCOPIAS has been delivered for more than a thousand vessels.

## PROJECT SUPPORT

In addition to software, SARC also offers project support for design offices, shipyards, ship owners or any other party that lacks time, capacity, knowledge or software. Using our in-house developed software as basis for project support, SARC can ensure expert and highly efficient use of software. Over the years, SARC has been involved in over 3500 projects, with tasks such as:

- Calculations of tables of hydrostatic data and tank sounding tables.
- Calculation and optimization of probabilistic damage stability.
- Intact and damage stability booklets, loading manuals and water ballast management reports.
- Performing inclining tests and light weight surveys.
- Comparative studies on longitudinal strength.
- Determination of engine power requirements, including propeller optimization.
- Preliminary ship design, including preliminary lines plan and all design calculations.
- Hull fairing, and generation of shell plate expansions.
- Advise on optimal use of developable shell plates.
- Calculations of stability and motions of heavy transports.

- Ship hull shape measurement.
- Design or computations on non-ship structures, such as a floating swimming pool and a river flood barrier.

Vessel types include tugs, passenger ships, tankers (chemical, gas, crude and product), livestock carriers, heavy lift vessels, heavy cargo vessels, container ships, bulkers, reefers, fishing vessels, sailing vessels, frigates, patrol boats, landing platform docks, pontoons, crane vessels, yachts, submarines, survey vessels, standby vessels, suppliers, ferries, short sea ships and inland waterway vessels.

## SOFTWARE SUPPORT

All SARC employees are involved in support, developing software and projects. Therefore, in general, questions are answered by experienced users with in-depth knowledge of the software and the applicable practice and regulations. SARC highly values this direct contact between end user and developer, as it gives excellent insight in the requirements and opinions of PIAS and LOCOPIAS users.

## CUSTOM-BUILT SOFTWARE

SARC also develops software at the client's request. Over the years we have produced software for specific purposes, such as:

- A complete program suit for the transport and installation of floating motorway tunnels.
- XML converters.
- LOCOPIAS add-ons for ship-specific elements, such as for a stinger, pipe holds, non-standard cranes etc.
- Dedicated LOCOPIAS features, such as damage control.
- Interfacing with a dedicated spreadsheet model of a specific structure.
- Interfacing with general CAD and CAE programs.
- Dedicated output formats as required by some authorities.



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