

SIREN

Simulation REporting & Networking





McLeod Institute of Simulation Science

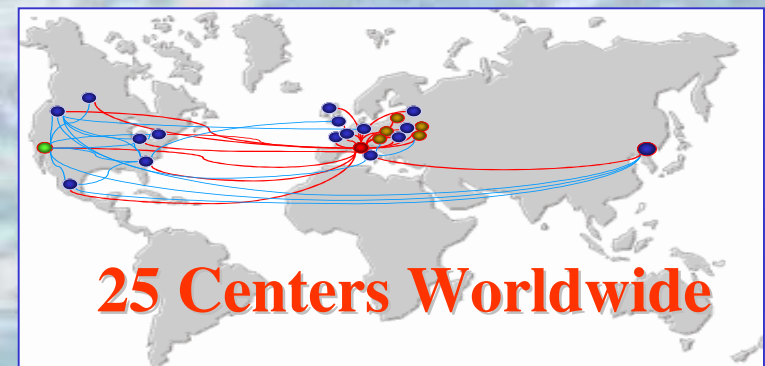
www.simulationscience.org

The Institute of Simulation Science is an International Network named after John McLeod, the founder of the Society for Computer Simulation International and the first editor of its journal, "Simulation"

The MISS consists of co-operating Centers active in professionalism, research, education and knowledge dissemination in the modeling and simulation domain.

Modeling and simulation (M&S) is an enabling technology for:

- Decision making in system design, development, optimization, control, and acquisition, as well as for sensitivity analysis, planning, and prototyping
- Understanding
- Education and training to enhance decision making and/or motor skills
- Entertainment
- Supporting real system operations
- Enriching real system operations



The MISS aims to provide an organizational structure that will serve to integrate and enrich, within its Centers, the activities of modeling and simulation expertise throughout the world.

Prof. Agostino Bruzzone, World Director of MISS





MISS - Genoa

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The research group of MISS-DIP of *Genoa University* is active from '60 in Simulation applied to Industrial Engineering.

The activities involve modeling, simulation, VV&A and analysis of Industrial Applications and Services (design, re-engineering, management, training etc.) as:

Chemical Facilities

Power Plants

PM

Harbor Terminals

Public Services

Environment

Manufacturing

Assembling

Logistics

Public Transportation

The Department staff is in touch world-wide with the simulation community & is present actively to conferences, exhibitions and working meetings with the major Associations, Agencies & Companies.



McLeod Institute of Simulation Science



Liophant Simulation





Liophant Simulation

www.liophant.org

Email info@liophant.org



Liophant Simulation involves World-Wide over 120 Scientists and Technicians working in Companies and Academia.

The *Liophant* develops Advanced Projects for Real Industrial Applications as:

- ❖ **SITRANET: HLA Driving Simulator for Cranes and Truck**
- ❖ **Safety First : Virtual Ship Handling Simulation in Harbour Environment**
- ❖ **DICOSAP: Supply Chain Management Decision Support System**
- ❖ **Health Care Models**

Liophant Simulation promotes international Cooperations and exchanges with Excellence Centers World-Wide (i.e. NCS)

www.liophant.org



McLeod Institute of Simulation Science



Liophant Simulation



SIREN Meetings



MISS activated a series of industrial meetings within SIREN initiative in order to collect ideas, initiative and needs from simulation community.

The results of this activity are matching the experience of MISS people in Conferences, Workshops, Exhibition and On-going Projects, reporting back to the Academic, Company and Service User Community.



Simulation Technology Transfer

Since 2000 MISS-DIP organises Simulation Technology Transfer for companies in Europe on the M&S topics with special attention to HLA/DIS/VV&A.

The attendance to the technology transfer session during first years of operation was significant (PM ~60, M&S 25, HLA 30, DIS10, VV&A 10) and involved major Companies (i.e. Piaggio Aero Industries, Alenia Aeronautica, Alenia Marconi Systems, SIA, Fincantieri, COOP, Meteor, etc.) and high qualified Academia (Pol.Turin, Pol.Milan, TU Delft, Univ.Marseille, Univ.Florence, Univ.Bari, Clermont Ferrand Univ. etc.).



Course Location



Lecturing



Team Working & Exercises

Project: SIREN

Professional Courses



The professional courses have been organized since 2000 for WorldWide professionals, in English, Italian and French, focusing on the following subjects:

- PM: Project Management in M&S Projects
- M&S: Modeling & Simulation
- DIS:Distributed Interactive Simulation
- HLA: High Level Architecture
- VV&A: Verification, Validation and Accreditation

The courses include lecturing and exercising; teachers are world-wide experts from major excellence centers (i.e. Boston College, Genoa University, NASA, DMSO, National Center for Simulation, SAIC, Aegis Technologies, California State University, Riga TU, UCF, McLeod Institute of Simulation Science, DIP).



Lecturing Style

The courses are organised based on different modes:

- Lecturing
- Interactive Exercises on PC
- M&S Team Working Games
 - Co-operative: i.e. SUMBA
 - Competitive: i.e. BABEL
 - Co-operative & Competitive: i.e. J20



Tailoring SIREN



The courses are organised based on different modes devoted to tailor the technology transfer on the needs of each entity:

- Attendee Mix in MISS Site on Thematic M&S Package
 - DIS / HLA / VV&A / PM in M&S / M&S
- Events organised in Company Location using Siren Mobile Labs
 - Tailored Event
 - Standard Package



MISS Certification

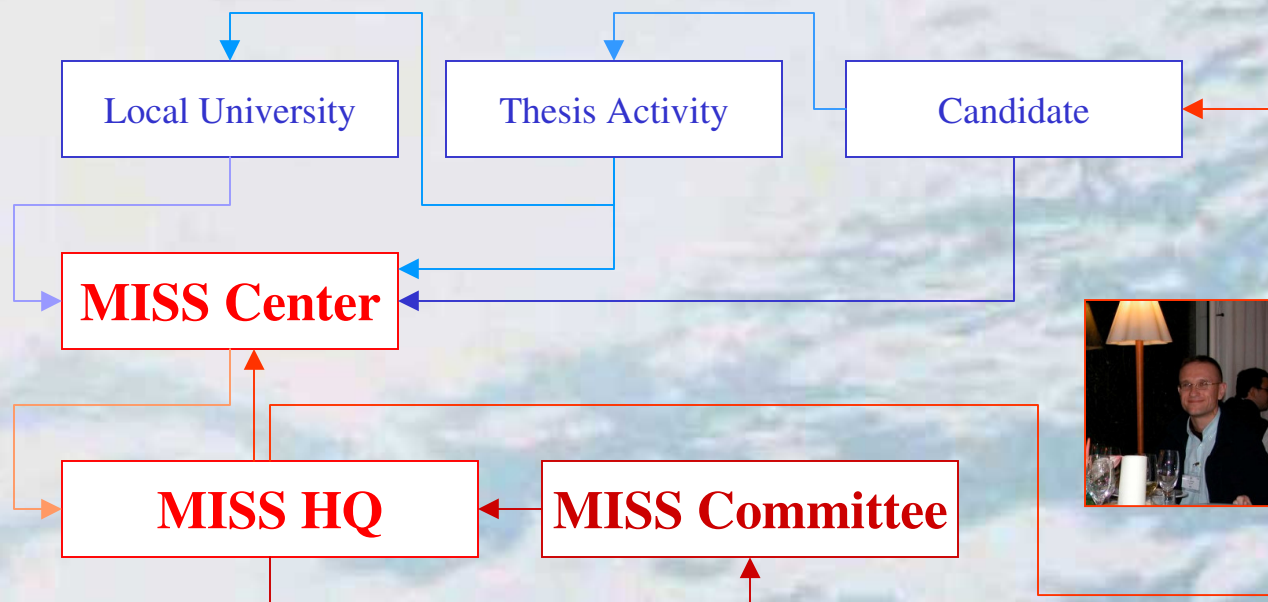
MISS is currently involved in Certification of M&S skills with attention to two different aspects:

- Certification of Academic Education in M&S
- Certification of Professional Course Attendees in M&S



MISS Academic Certification

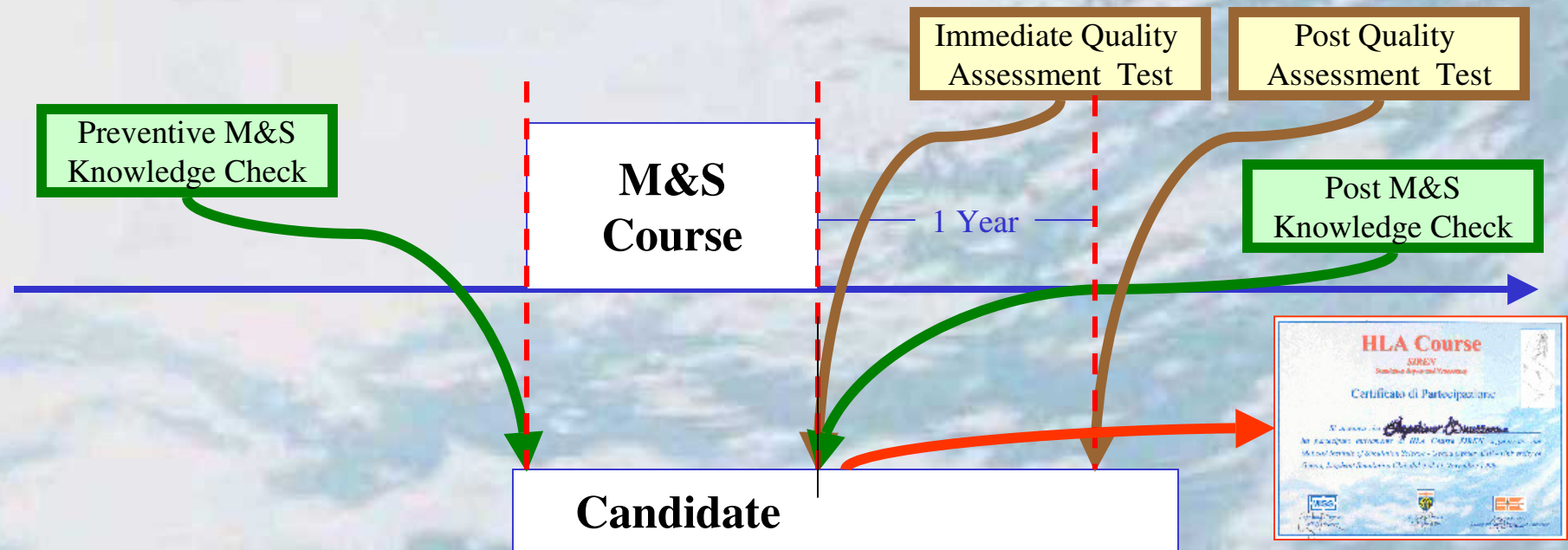
MISS activated a detailed procedure for Certify completing Academic Educational Program (PhD, MS, BS); currently this procedure involves MISS Centres as local reference point to prepare the documentation required for the Certification.



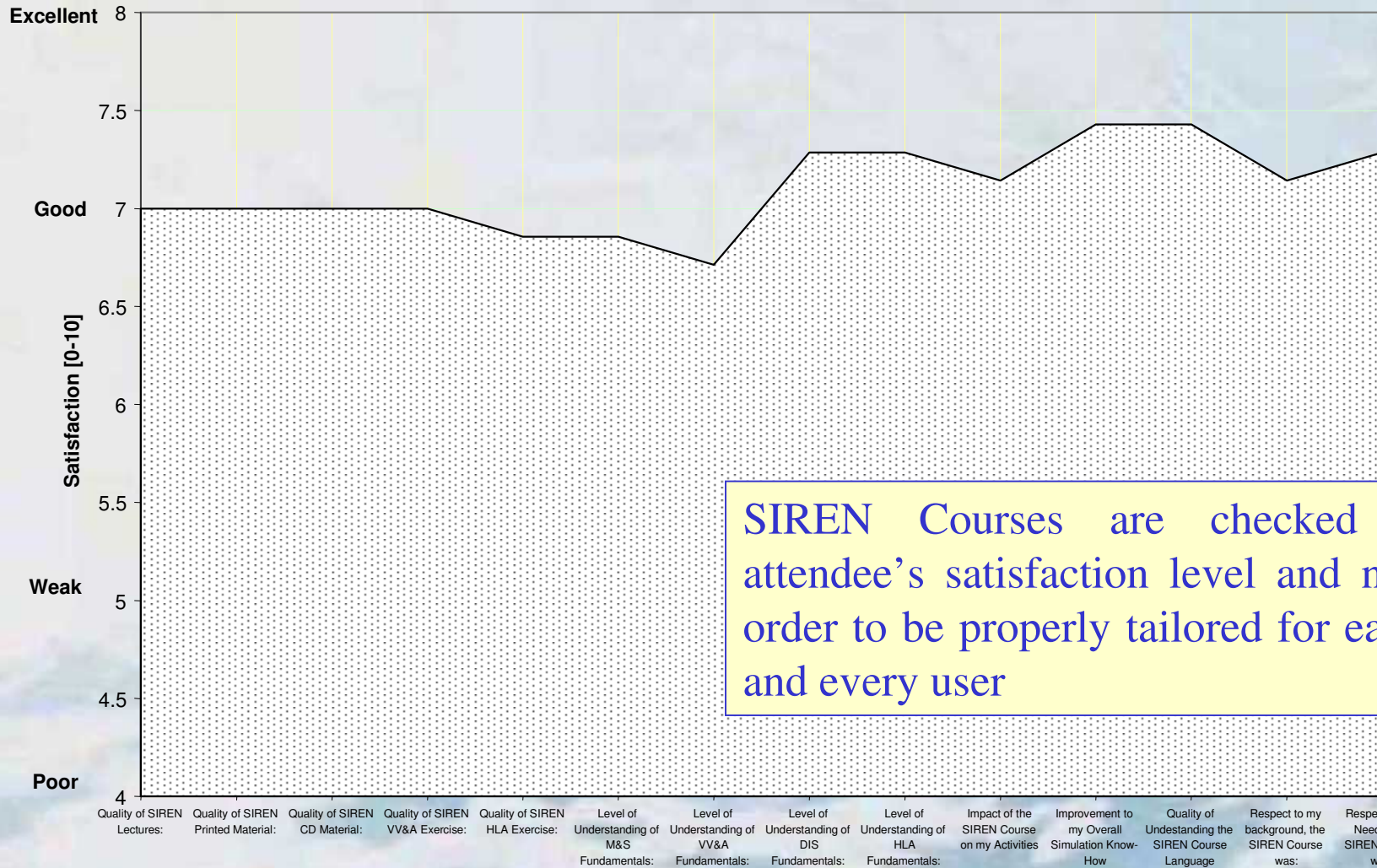
MISS Professional Certification



MISS established a procedure for Certify people attending to MISS Professional Courses; currently this procedure involves MISS courses and it is based on an operative protocol to appoint Certifications to course attendees.



SIREN Course Satisfaction Levels



SIREN Courses are checked versus attendee's satisfaction level and needs in order to be properly tailored for each case and every user

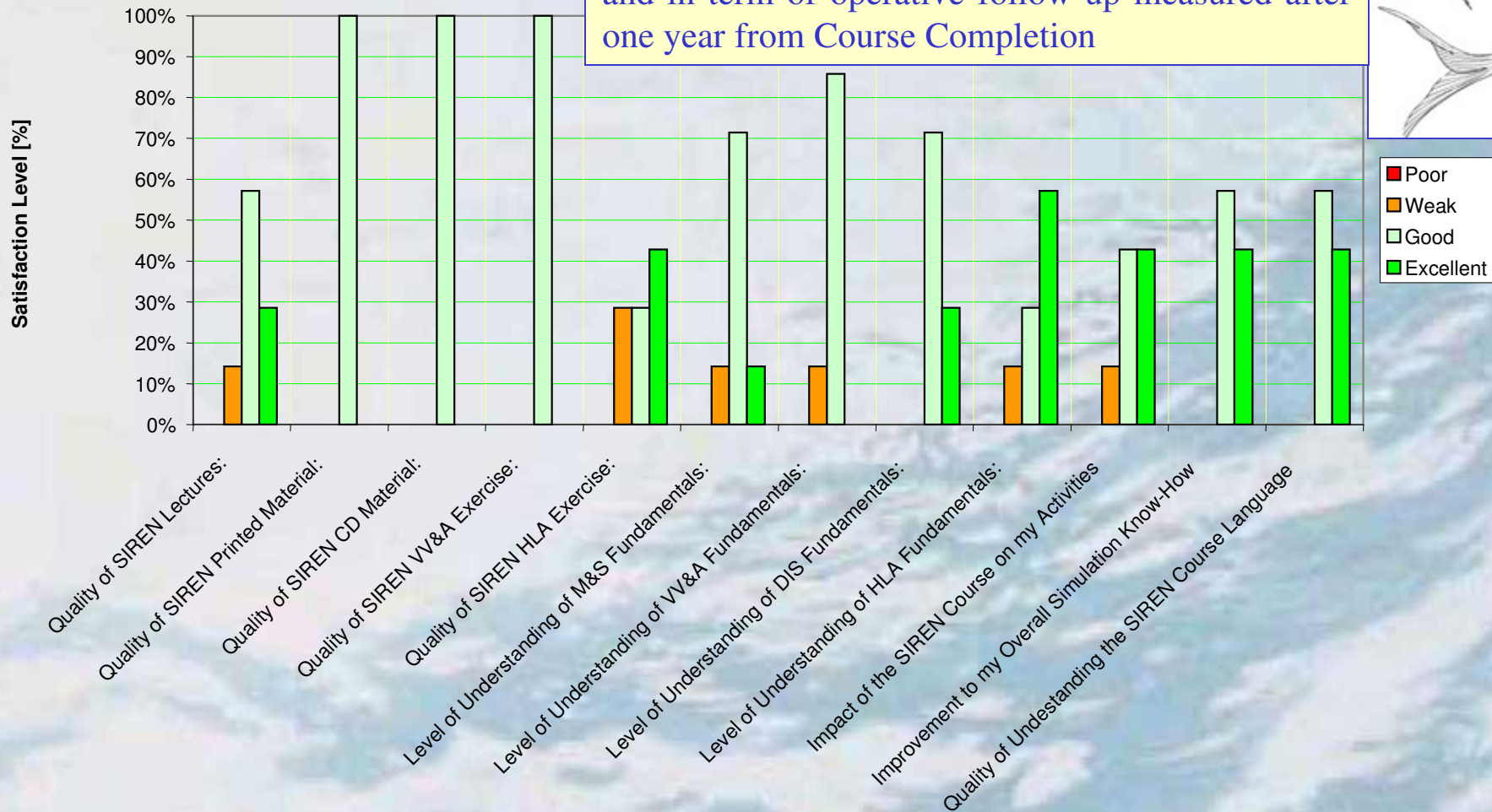
Data Sample



SIREN Quality Assessment



The quality of SIREN Courses resulted to be very satisfactory both based on the immediate feedback and in term of operative follow up measured after one year from Course Completion



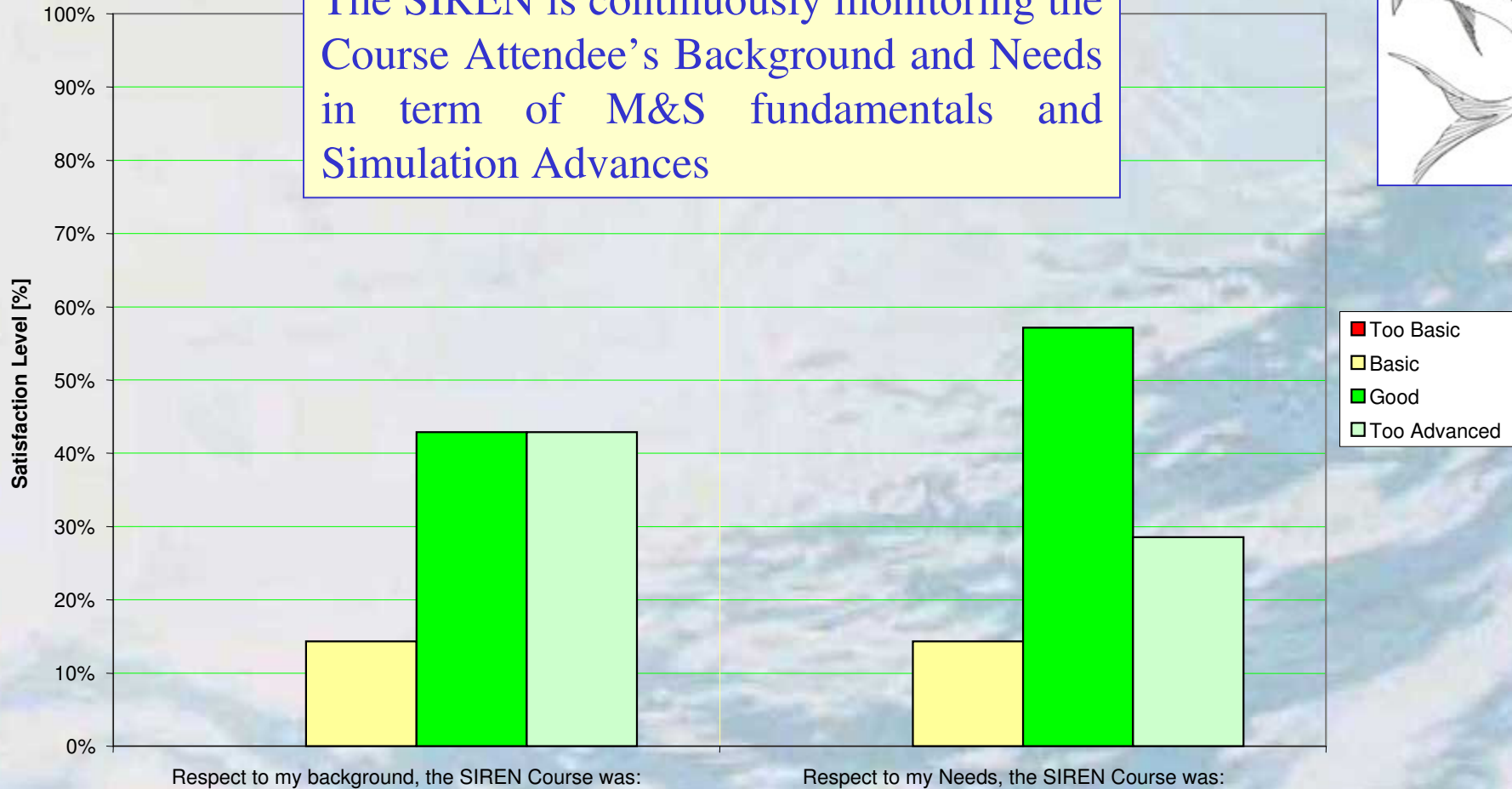
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SIREN Self Evaluation



The SIREN is continuously monitoring the Course Attendee's Background and Needs in term of M&S fundamentals and Simulation Advances

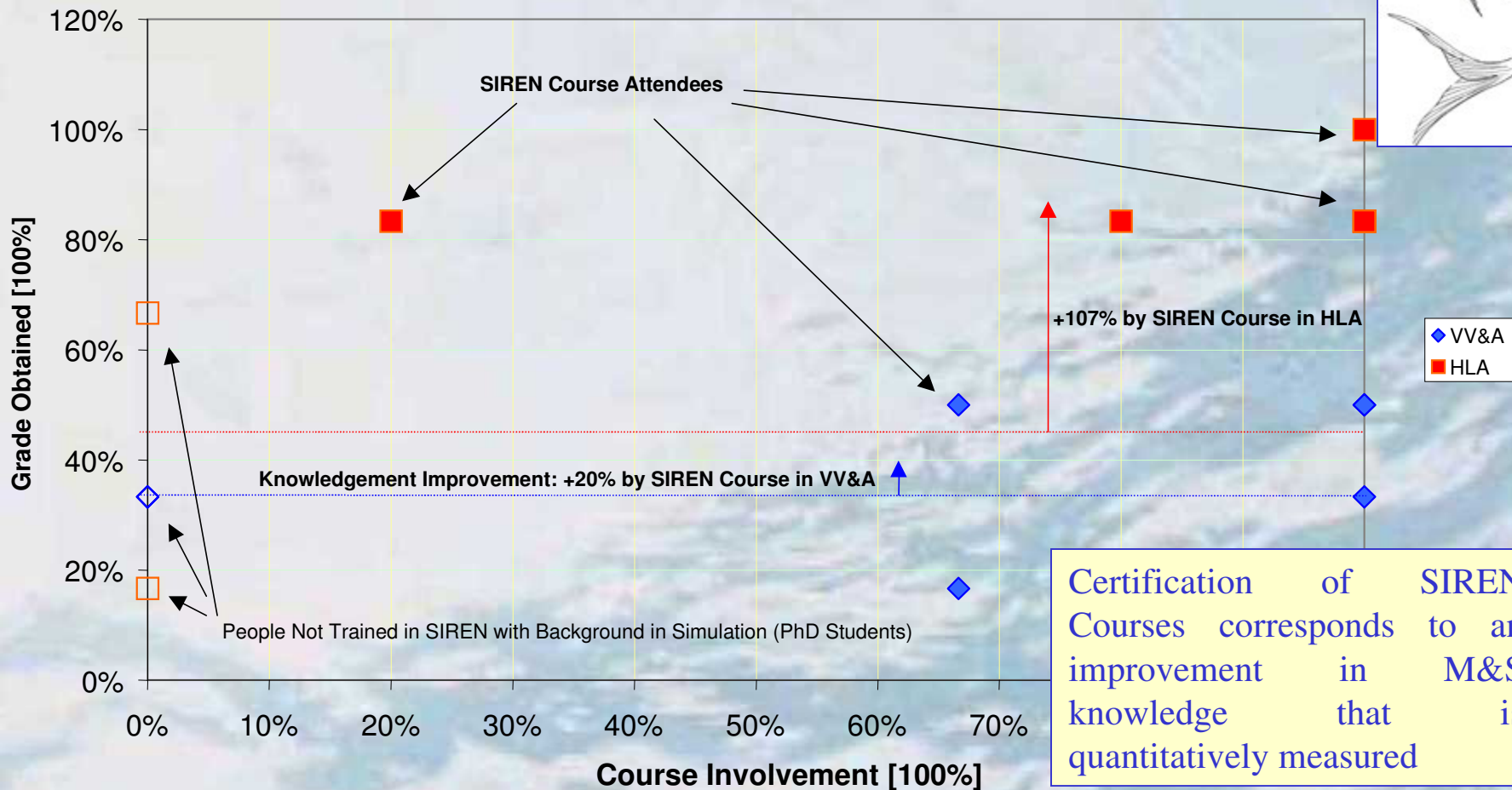


Data Sample



SIREN Quantitative Improvements

Course Involvement vs. Grade Obtained for Attendees

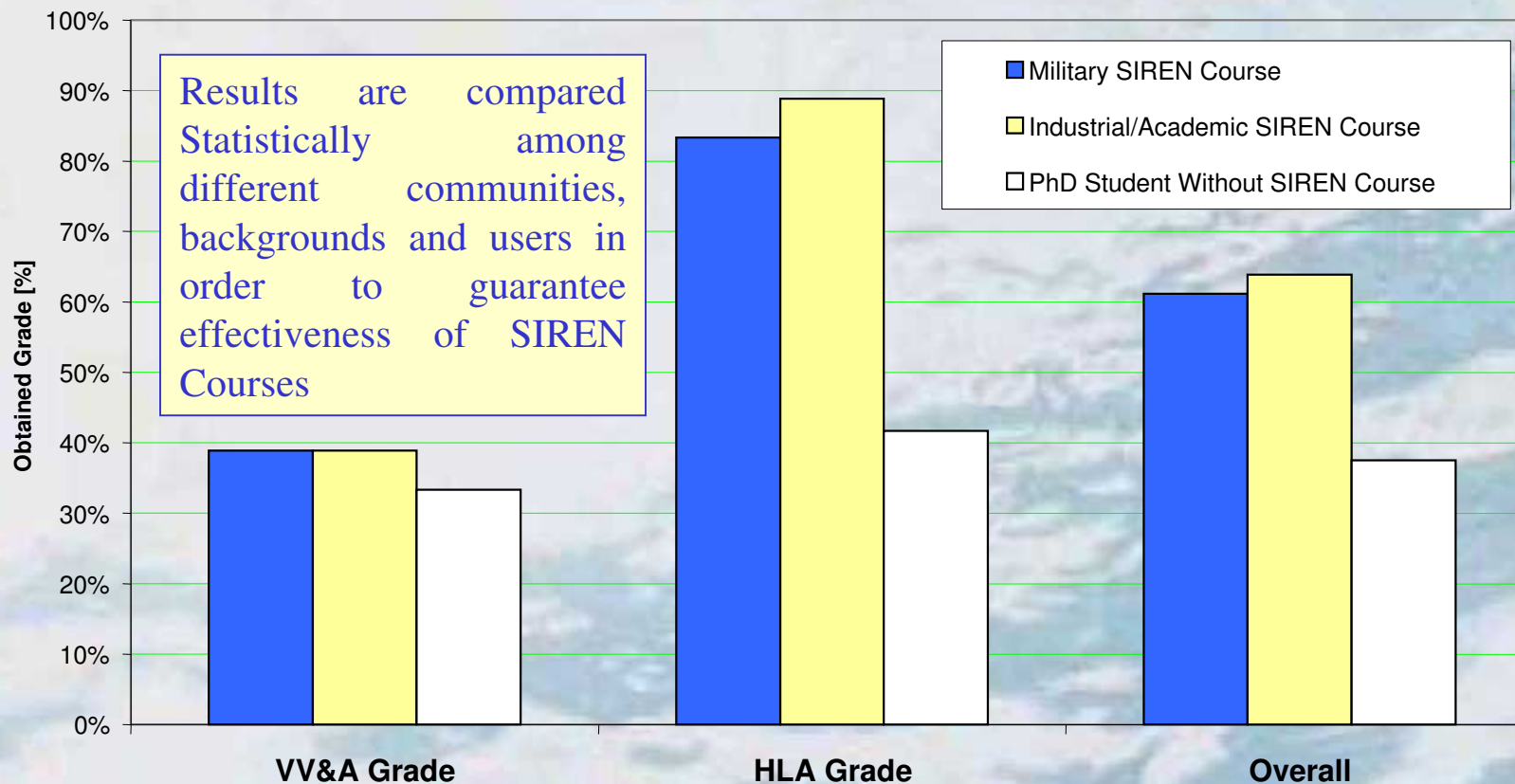


Data Sample

SIREN Impact vs. Traditional Education



Grade Obtained in SIREN Test



Data Sample



Summarizing

- **SIREN demonstrated that it is possible to obtain important improvements in M&S knowledge by applying innovative educational methods.**
- **SIREN initiative benefits strongly of the Skills, Experiences and Expertise available in Top International Networks such as McLeod Institute of Simulation Science and Liophant Simulation**
- **Continuous Researches and Advances in Educational Material, Packages and Programs guarantees to be able to support Simulation Community Needs respect the evolution of the technologies and standards.**
- **Certification Program provides a good references for standard in Education both for Academic and Professional Environments**



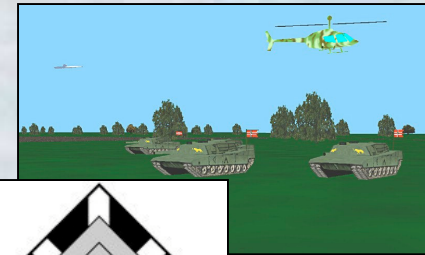
International Coordination

MISS is strongly supporting the networking and conferencing activity devoted to guarantee diffusion of standards in M&S



MAS
2005

Genoa, Italian
Riviera October



SCSC 2006

Calgary, Canada
August



IM3

Marseille, October



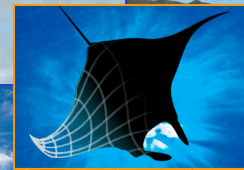
ESS
2005



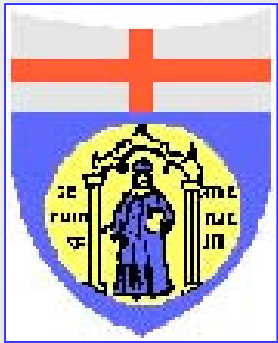
HMS
2005



Buzios
April



References



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