



Innovative Products and Technologies in Marina

TERMS OF REFERENCE

1. Historical background - Definition of the problem

Many new materials and processes are being discovered every year since at least a decade ago. Some of those discoveries are suitable to be applied in the construction and daily operation of marinas. The areas covered go from communications (WiFi transmission and management) to remote measuring of services (water and electricity), security (access control and camera access by Internet) to building basics (carbon fiber reinforced concrete, additives, walkways planking, paints, illumination and alternative energy production and use) to mention few.

The marina industry is just coming out from six years of world's economic difficulties. Players are cautious and reluctant to invest in elements or systems of unproven efficiency. This particular situation must be taken in consideration when elaborating this study, incorporating an efficacy value that helps the readers to immediately assess the calculated risk of the solution. (example: a proven concrete additive has less risk than a color pattern for visual impact).

2. Objective of the study

To identify the actual (today) possibilities of using innovative and sustainable products and technologies for recreational navigation infrastructures and operational matters in marinas.

It is also important that the user of this review can assess how sustainable, ecological and user-friendly the various products and materials are for specific applications.

And to give an overview of cases where innovative products and technologies have been used.

3. Earlier reports to be reviewed

RecCom WG 5: Standards for the construction, equipment and operation of yacht harbors and marinas, with special reference to the environment. Working with Nature, PIANC position paper. EnviCom related initiatives (e.g., greenports, sustainable navigation, and PTG CC). RecCom WG 134 'Design and Operational Guidelines for Superyacht Facilities', WG 131 "Catalogue of prefabricated marina elements", Wg 312 "Dry stack storage", WG 105 "Use of alternative materials in marine structure construction".

4. Matters to be investigated

Safety. Berthing systems. Communications. Navigational aids. Energy use efficiency. Water quality. Waste collection and disposal. Inspections and maintenance. Illumination. Noise control. Visual effect.

5. Method of approach

Typical of multidisciplinary WGs. Investigating through the networks available (ICOMIA, GMI, AMI) best practices in marinas and new ideas in early stages of implementation.

6. Suggested final product of the Working Group

The product should be a paper or electronic report. The report shall include a list of findings classified by category, and the description of the field cases mentioned in "2".

7. Desirable disciplines of the members of the Working Group

Marina planners and designers, marina managers, material experts, ecologists, engineers, marina consultants, marina element suppliers, building companies involved in coastal projects.

8. Relevance to countries in transition

Innovative products and technologies can help to build more economical and durable structures, coping a more sustainable development.

9. Climate Change

Water transport infrastructure will greatly be affected by climate change, and to build in a more sustainable way means to cope this kind of challenge also.

Rising sea levels will result in flooding and disruption in marina. Especially the use new alert technologies, like as materials that enhance passive protections of constructions and low maintenance costs, can be a main goal for the future.