

Living Spaces at the Water

Living Working Tourism Leisure

Architecture – Project Consulting

Comprehensive planning and designing involving water



WATERFRONT AND URBAN PLANNING

MARINA DESIGN

ECONOMIC FACTOR MARINA

ICOMIA Marinas Group Introduction

Dr. Peter Jansen
Secretary, ICOMIA Marinas Group (IMG)

WATERFRONT AND URBAN PLANNING

Waterfront: General possible use

- **Ecology** – maritime habitat preserve or rebuilt, seed shallow water
- **Water management** – flood or tide prevention, wastewater treatment, flow regulation, portable water supply, embankment fortification
- **Public space** – walkway, promenade, restaurant, viewpoint
- **Traffic** – ferry terminal, cargo port, waterfront road, bridge access
- **Leisure time activity**– marina, water sport, beach
- **Living** – apartment buildings (dockominiums) along the waterfront
- **Working** – office buildings mostly in abandoned harbors



Worldwide frame condition difficulties examples

- Site conditions
 - Hurricane, Cyclone, Typhoon
 - Tide
 - Sedimentation
 - Water depth
 - Wind direction
- Administrative conditions
 - Difficult approval process
 - High taxation
 - Short lease terms
 - Fishing Harbors vs. Marinas
 - No infrastructure support



Marina Neuwied, Germany, actual Master Plan and building design

© urban aqua

Marina Considerations for developing new markets

Actual Situation

- Difficult and non-uniform approval process in different states or regions
- Need of building costly infrastructure like piling, breakwater
- Boats are often taxed as luxury goods
- Private sector is unsure how to start the marina business
- Need of nationwide information exchange and control common marina developments
- Regions / municipalities run their own marina development program without national consultation

Possible Improvement

- Ease the approval procedure by appointing one leading department
- Support private waterfront developments with Governmental aid
- Boating should be a fun and sport activity for all
- Start development with building public marinas by Government
- Appoint central agency to control, organize and supervise all developments
- Master plan to specify location and facility of Marina activities in all regions

Marina Considerations for developing new markets

Actual Situation

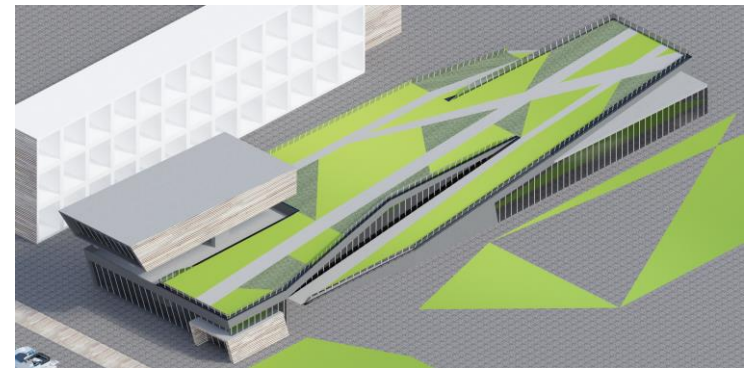
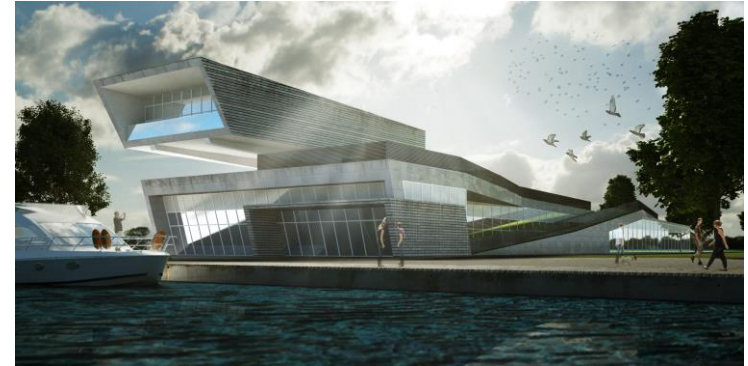
- Private sector alone is unable to identify all risks of all necessary business
- Knowledge of boaters demands, needs and marina facilities have to be examined
- Marinas are for Super Yachts. biggest potential of middle class is untouched
- Marinas are Clubs mainly for members only with no public access and no benefit to the community
- People have no idea if they like leisure boating and are afraid of boating

Possible Improvement

- Business plan for Marina of any region, calculate revenues, costs and expenses
- Work out potential analysis and marina facilities for regional projects and specific sites
- Built up Public Marinas with reasonable berth sizes and fees
- Create lifestyle waterfront and marina developments, open for the public
- Encourage testing and charter of different boat types and educate boating culture

Public Marina - Main assets for the public

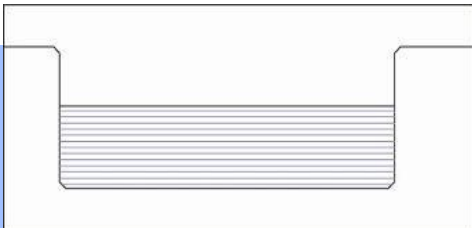
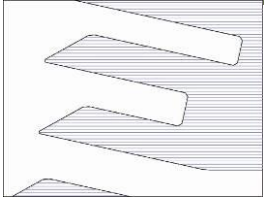
- Small – medium size berth (8-20 m) for normal middle class boating people
- Boat testing and training possibilities for free to try boating and finding out how it is
- Charter offers for non boating people to get used to boating before buying a boat
- Open to the public, not a members only club
- Service and leisure time activities beside boating, creating a lifestyle hub for all
- Offering boating and lifestyle events for all kind of people to attract them to the marina
- Public Marina brings financial benefit to the local economy, giving additional jobs and income, also improves Government taxes



Kakumae Haven, Tallin, Estonia. Marina Service Building design
© urban aqua

Spatial considerations

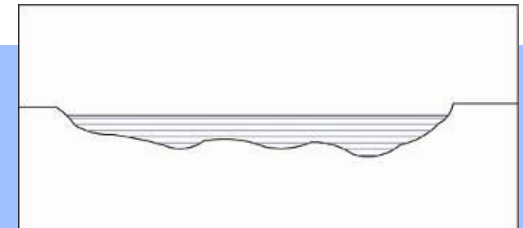
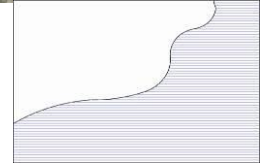
Inner city site



Criteria

- Water depth / dredging
- Land / water use
- Restrictions
- Infrastructure
- Access
- Distance to sailing ground
- Morphology
- Environmental impact
- Embankment situation
- Tide and flow velocity
- Linkage to the surrounding

Natural site



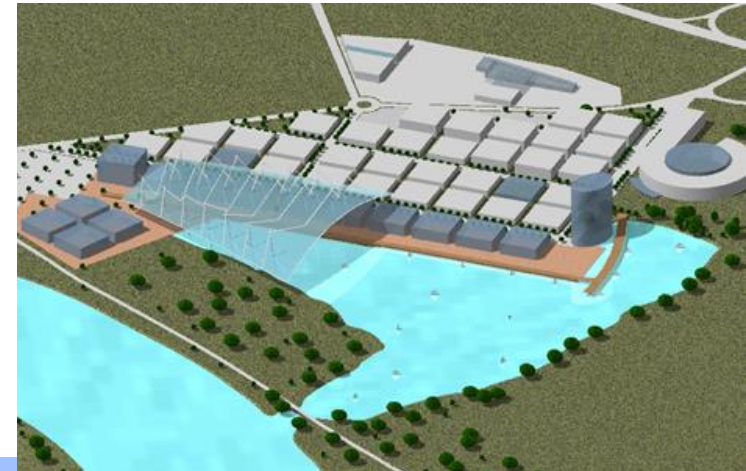
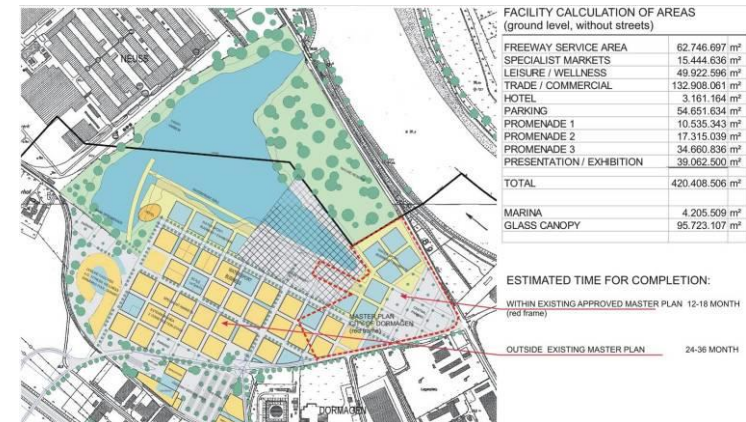
Spatial comparison - Inner city site

- Connection to a town with variable access from the town
- Fixed basin dimensions determined by former industrial use
- Less wave protection necessary, mostly no direct sea contact
- Former industrial area needs redevelopment also for onshore developments
- Open landside facilities to public, leisure time activities beside boating possible
- Use former industrial buildings for Marina facilities as boat repair or dry storage
- Balance needs of existing and future residents and businesses within master plan



Spatial comparison – Natural site

- Access only by one road thru the hinterland
- Restrictions of harbor area by mole or environmental protection
- Often wave protection necessary by wave breaker or mole
- Only necessary Marina facility buildings should be integrated in natural environment
- Mainly focused on boating and assisting activities, often only access by members
- Marina buildings have to be build new and to fit into the surrounded environment
- Ensure development accords with Strategic Flood Risk Assessment findings regarding flood risk and coastal defenses

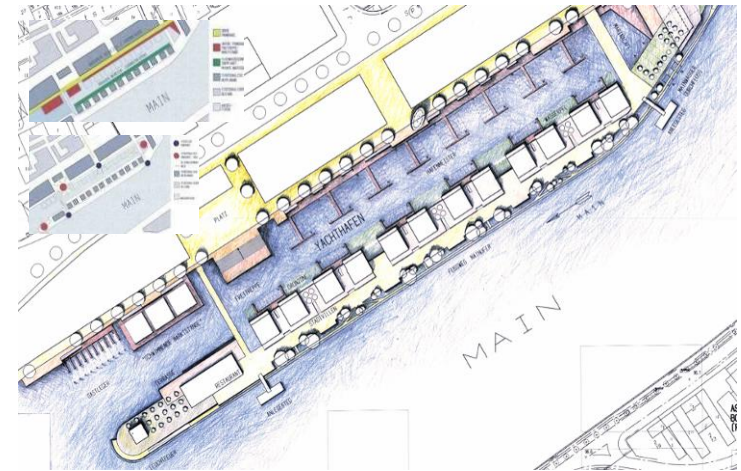


Silver Lake • Water Sports Exhibition
and Trade Park • Masterplan

© urban aqua

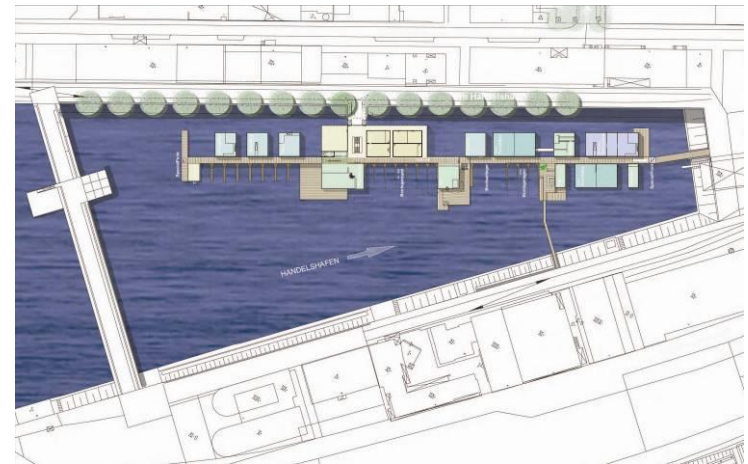
Spatial considerations – Inner city

- Location with respect to town center/port
 - economic stimulus
 - marina as recreational factor
 - visual linkage
 - access
- Commercial activities create synergy effects by tying waterfront with rest of community
 - restaurants/cafes
 - public convenience
 - shops/retail
- Existing port infrastructure can be an asset
 - ship repair yards, cranes etc.
 - for maintenance or recreational function
 - preservation / enhancement of historic buildings
- Infrastructures used as architectural/historical asset which increases overall interest



Waterfront qualities

- Acts as a catalyst for other developments
- Attracts enjoyment of the waterfront
- Opens up shorefronts
- Brings the public back to the inner cities
- Provides access to the water
- Expanse und silence of the water surface
- Contrast between water surface and bank
- Movement by the water itself (waves, tide, surf)
- Activities by boats and water sport
- Typical noises and smelling at the waterside

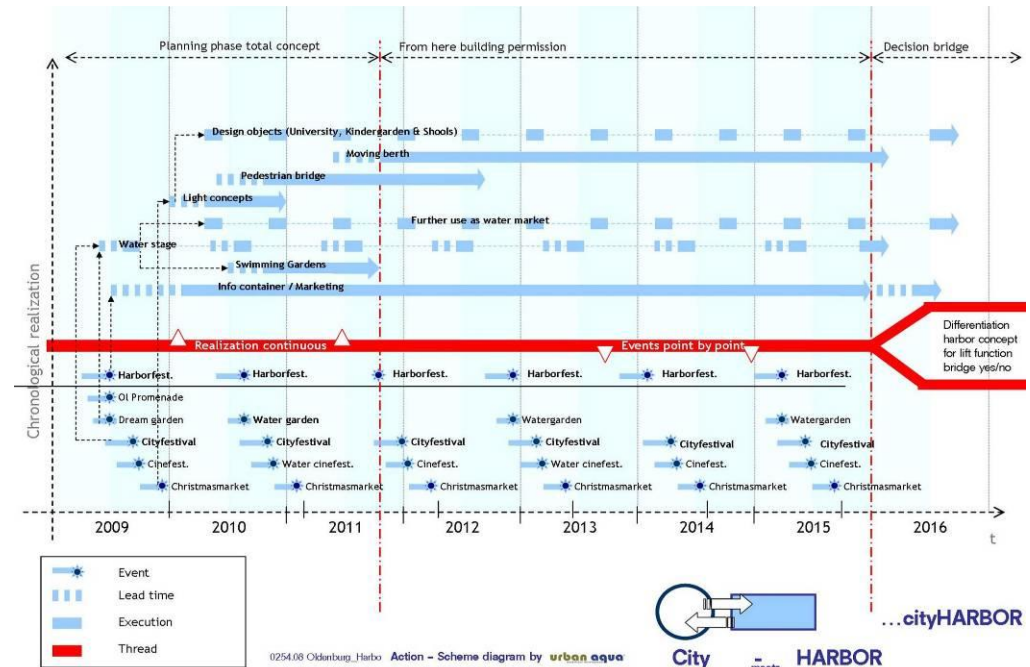


Classic Boat Club • Master plan/Sketch

© urban aqua

Waterfront Master plan objectives - Linkages

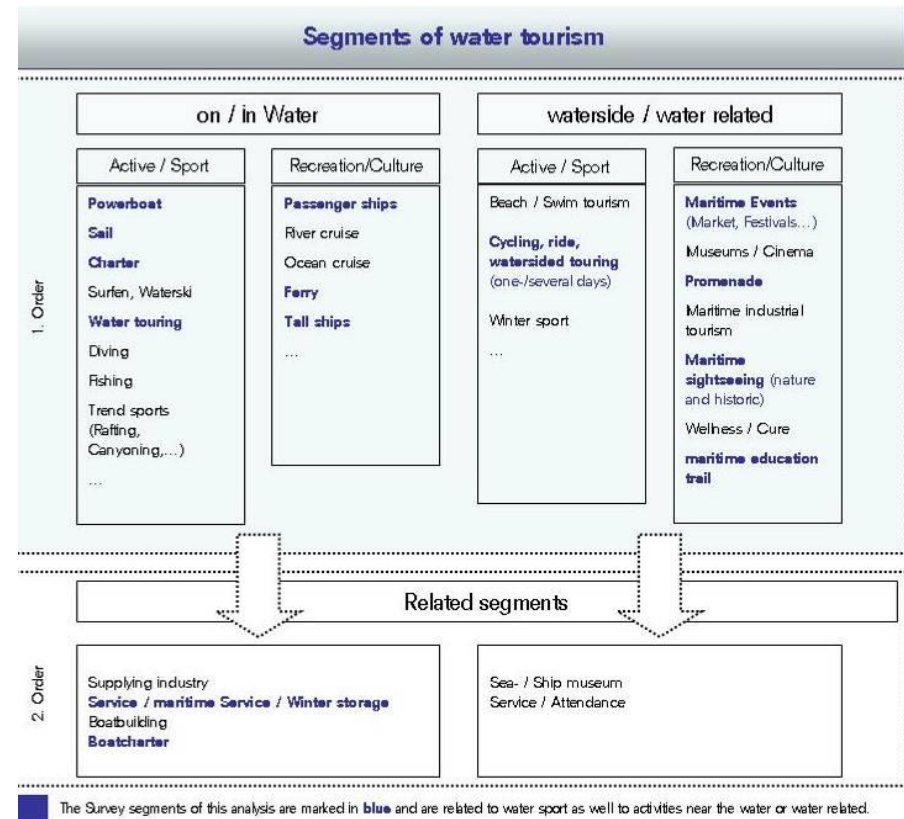
- improve pedestrian and public transport linkages between Marina and City Centre.
- secure visual and pedestrian connections to the sea and harbour areas of Marina.
- ensure vitality and animation for pedestrians through recreation, leisure, retail and commercial uses, with particular emphasis on main gateways.
- improve linkages through development of green infrastructure network.



City Harbor Oldenburg • Project timeline
© urban aqua

Waterfront Master plan objectives - Development

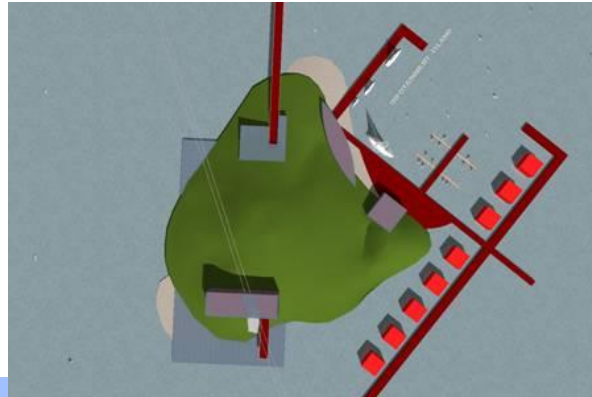
- secure high quality buildings, townscape and public realm.
- ensure significant enhancement of general accessibility to the Marina
- improve legibility, permeability and connectivity for pedestrians.
- ensure key linkage areas of a high quality and ensure consistent approach
- ensure successful integration of existing and proposed developments.
- create cohesive sustainable communities, ensure social infrastructure



City Harbor Oldenburg • Facility concept
© urban aqua

Waterfront Master plan objectives - Ecology

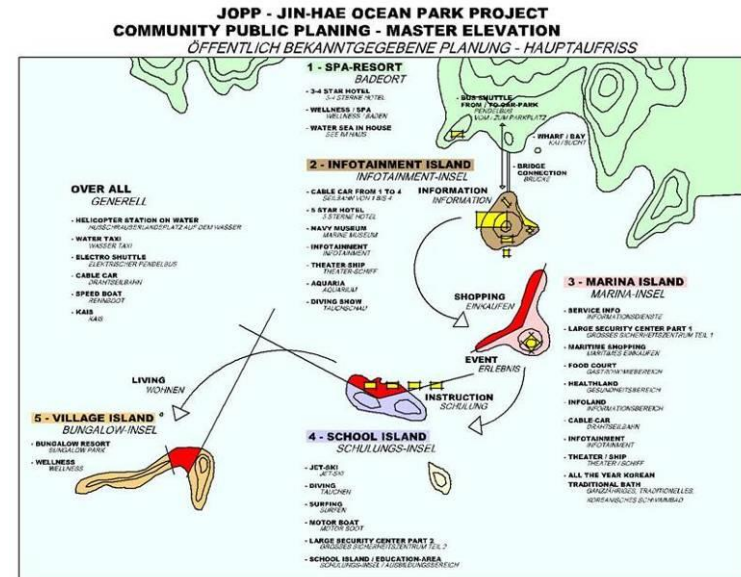
- protect, enhance and improve environment of sites and open water areas.
- ensure protection of existing maritime habitats, which may be an important source of seed and rare plants.
- enhance wildlife corridor to the water with particular regard to birds or beetles.
- maintain, enhance, restore or add existing biodiversity.
- protect existing vegetated shoreline and maritime habitats from development



Jin Hae Ocean Park, South Korea • Master Plan + finished project part with navy museum © urban aqua

Waterfront Master plan objectives - Environment

- ensure development accords with flood risk, also regarding coastal defences.
- ensure Marina use sustainable waste management and innovative solutions to recycling and waste storage.
- ensure that development minimises energy use by renewable energy and carbon dioxide emissions through highly energy efficient design.
- offer for free all waste facilities for boats, including bilge and black water
- Particular emphasis to flood risk and potential breaching of sea defences

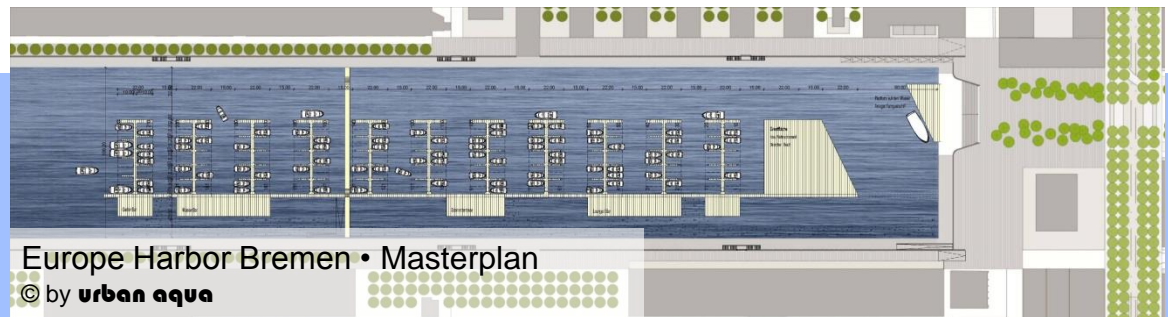
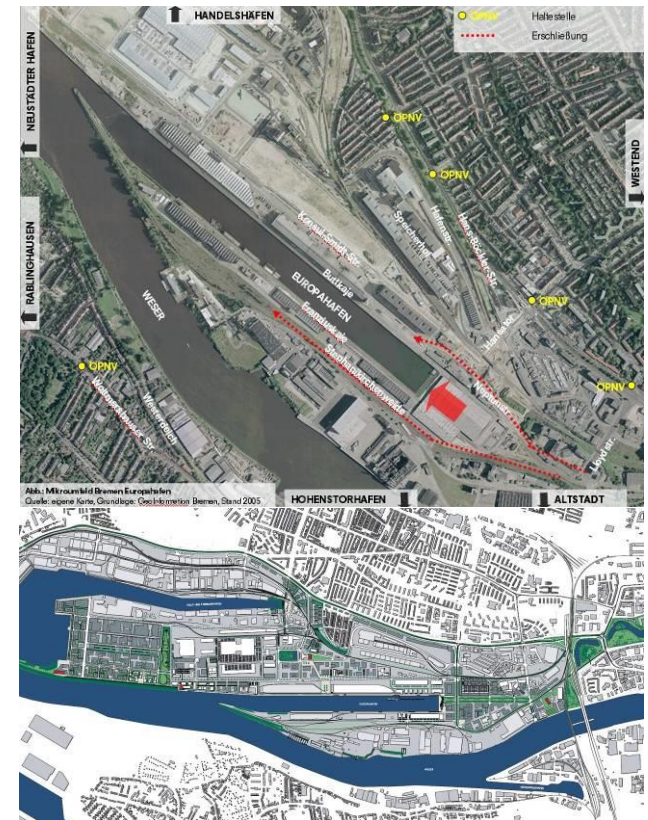


Jin Hae Ocean Park, South Korea • facility
Concept and aerial view

© urban aqua

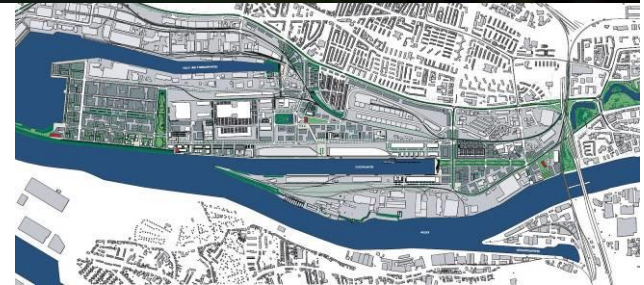
Example Public Marina Europe Harbor Bremen

- Development cost of approx. 350 Mio. €
- 300 ha of development space



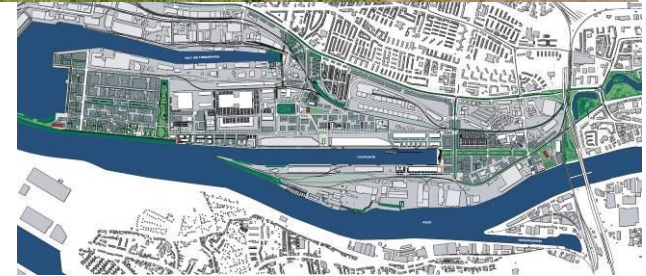
Example Public Marina Europe Harbor Bremen

- Development cost of approx. 350 Mio. €
- 300 ha of development space
- 9.000 employees
- 78.000 m² of commercial space



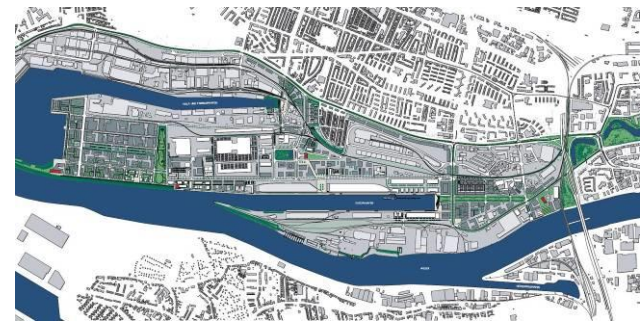
Example Public Marina Europe Harbor Bremen

- Development cost of approx. 350 Mio. €
- 300 ha of development space
- 9.000 employees on
- 78.000 m² of commercial space
- 17.500 m² of park space



Example Public Marina Europe Harbor Bremen

- Development cost of approx. 350 Mio. €
- 300 ha of development space
- 9.000 employees on
- 78.000 m² of commercial space
- 17.500 m² of park space
- 1.5 km waterfront promenade





Europe Harbor, Bremen



Aerial Europe Harbor, Bremen



Marina and Harbor Promenade



Construction of Europe Harbor

Example Public Marina West Harbor Frankfurt

- 125.000 m² of development space with
- 45.00 m² water space



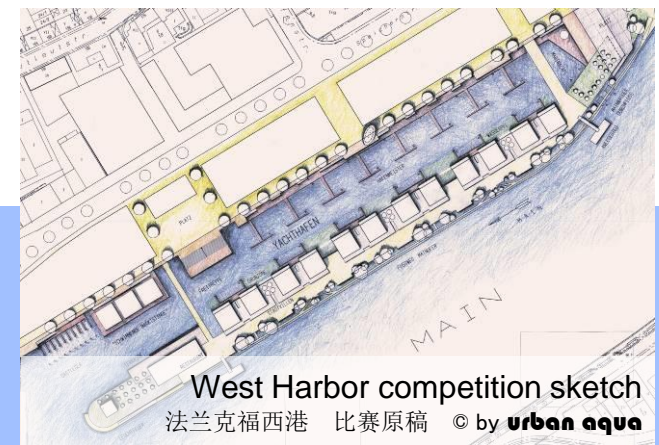
Aerial view of old Harbor
港口旧貌鸟瞰



Frankfurt West Harbor old aerial
法兰克福西港 旧貌鸟瞰图

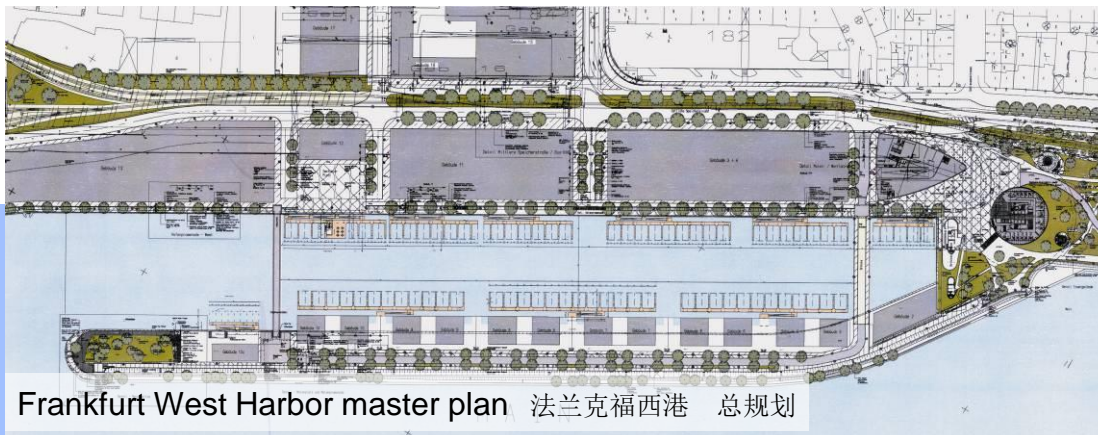
Example Public Marina West Harbor Frankfurt

- 125.000 m² of development space with
- 45.000 m² water space
- 850 apartment units housing 1600 inhabitants



Example Public Marina West Harbor Frankfurt

- 125.000 m² of development space with
- 45.000 m² water space
- 850 apartment units housing 1600 inhabitants
- 3.500 employees on ca. 60.000 m² of commercial space



Frankfurt West Harbor master plan 法兰克福西港 总规划



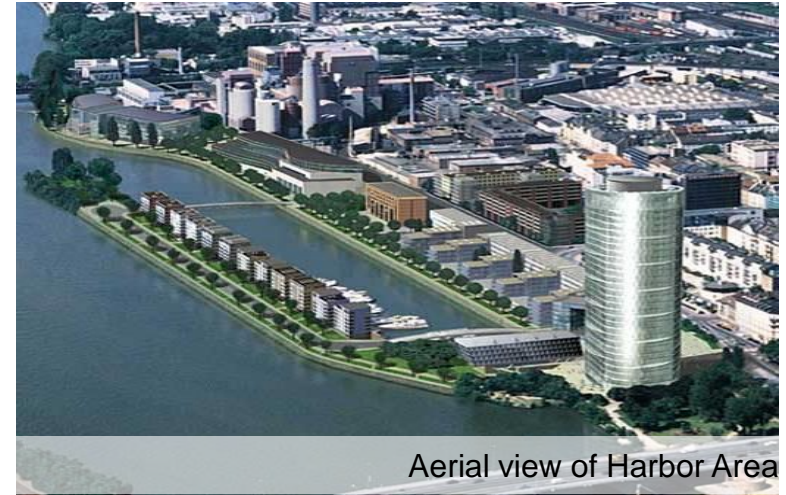
Example Public Marina West Harbor Frankfurt

- 125.000 m² of development space with
- 45.000 m² water space
- 850 apartment units housing 1600 inhabitants
- 3.500 employees on ca. 60.000 m² of commercial space
- total investment of 110 Mio. € for public space





Redesigned Area



Aerial view of Harbor Area



Aerial of Frankfurt West Harbor



Frankfurt West Harbor Marina

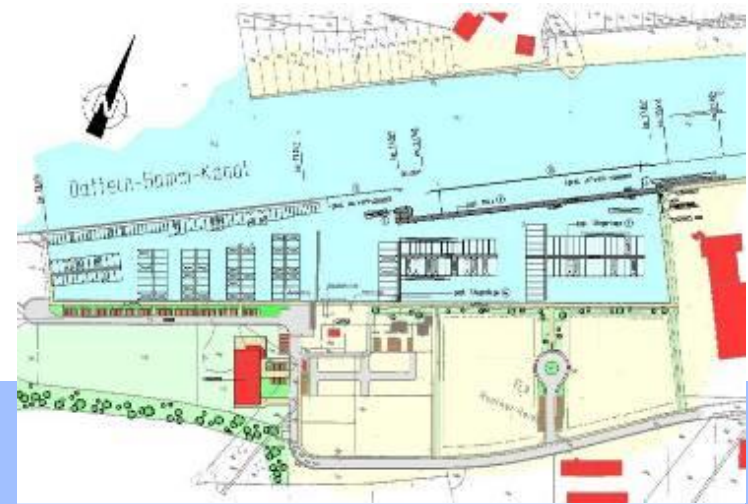
Conclusion: Nine Waterfront Planning Principles

- **Clean** – minimize impacts on the natural environment
- **Green** – protect, restore and enhance natural features
- **Connected** – with natural and cultural heritage of the City (i.e. through greenway links to natural habitats and historical features,
- **Open** – maintain views to the waterfront
- **Accessible** – provide continuous and barrier-free access to the waterfront
- **Useable** – permit uses that are water-related, compatible with adjacent uses, propose year-round use and enjoyment, and balance natural and urban features
- **Diverse** – provide a range of exciting landscapes and land uses
- **Affordable** – consider the long term affordability of development, including maintenance and environmental costs
- **Attractive** – design an attractive and inviting environment

MARINA DESIGN

General criteria for Marinas

- Sustainable facilities and boating offers
- Environmental impact considerations
- Design and architecture
- Functions and allocations
- Construction and engineering
- Service and maintenance
- Safety and security
- Marketing and events
- Integration and connection to the surrounding
- Ecological energy concept and carbon emissions minimization



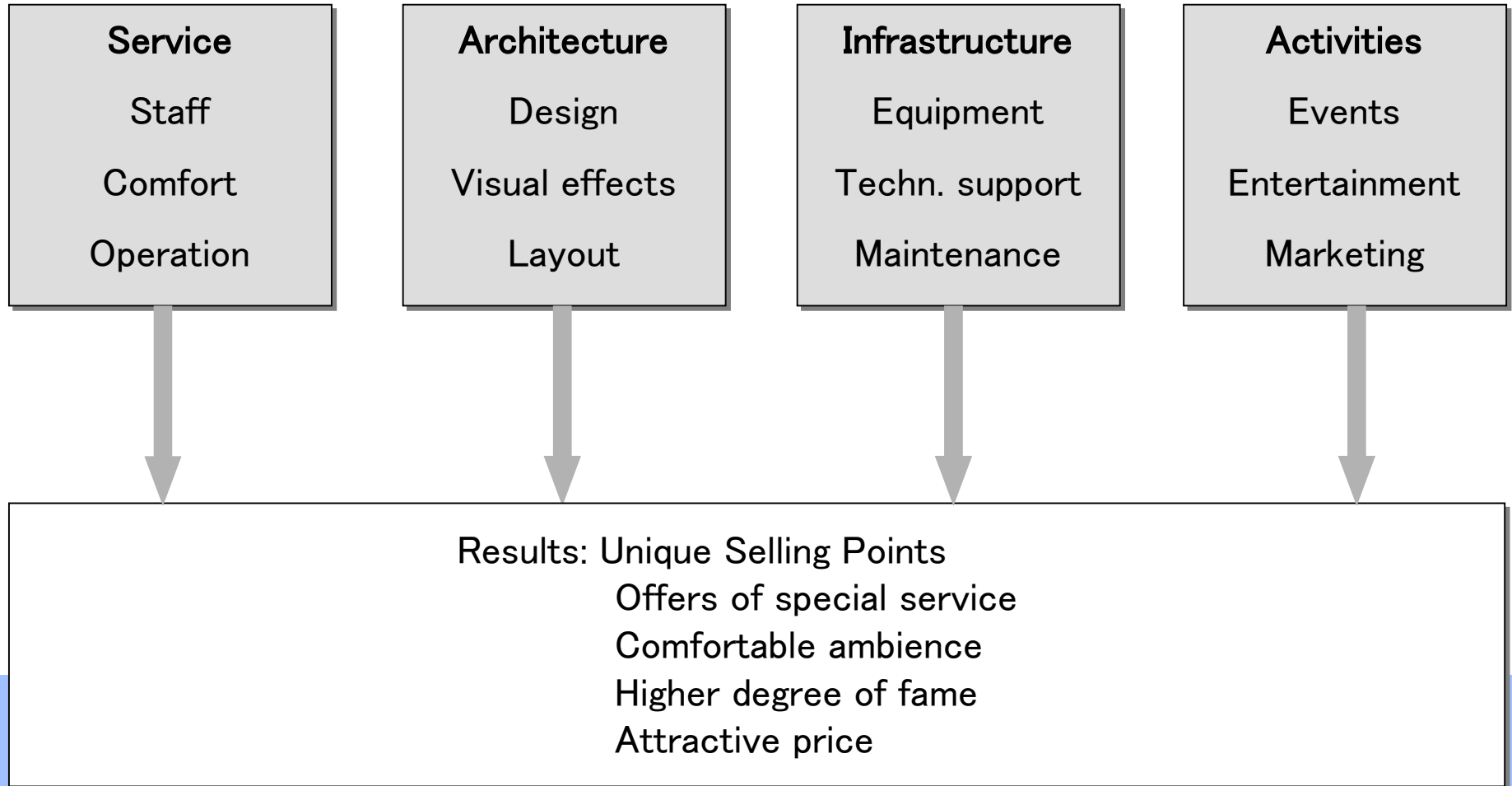
Marina Bergkamen, Germany
Concept by Peter Jansen for INPRO Ltd.

Why Marina design criteria?

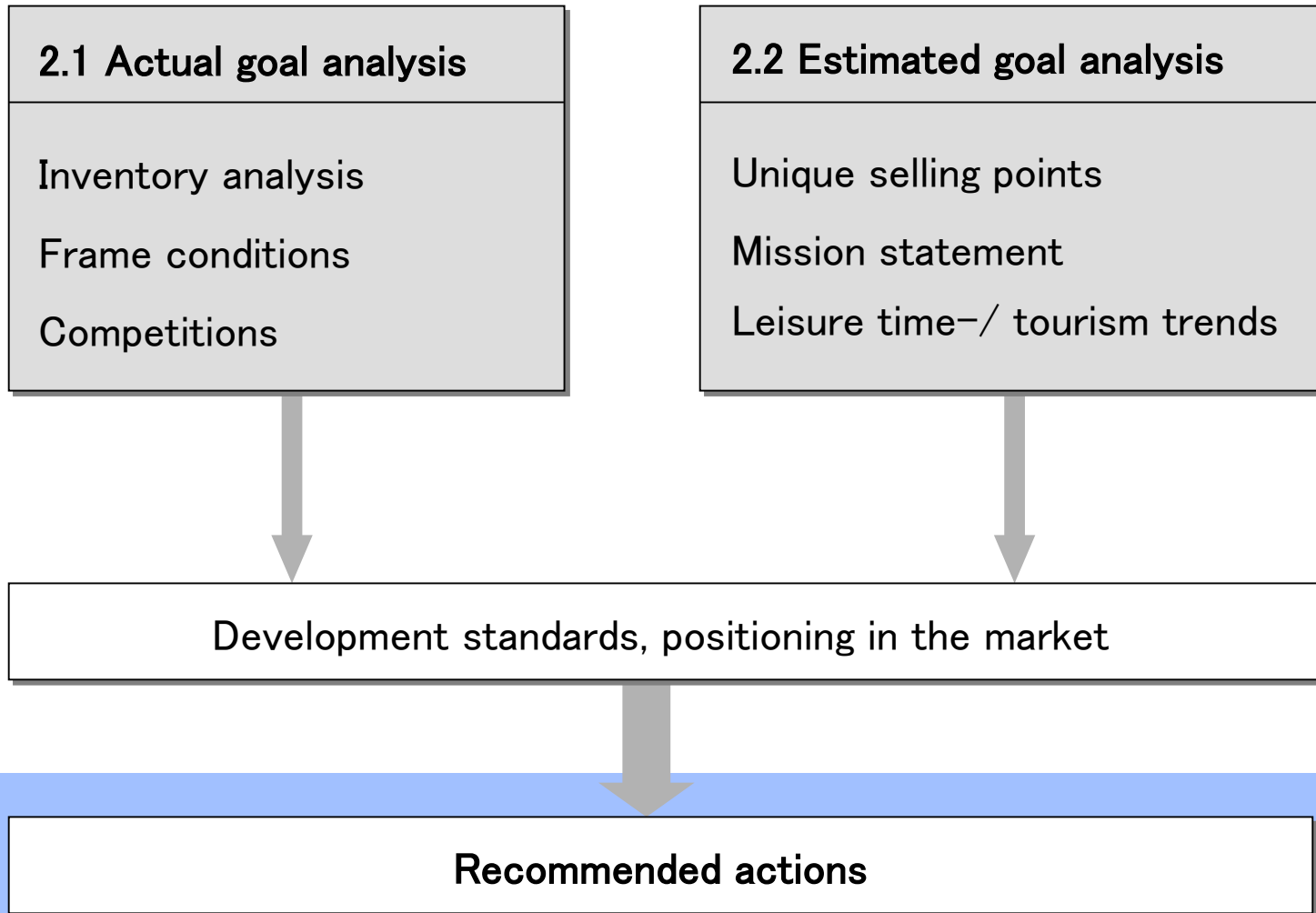
- Adaptation to a fast changing leisure time behavior
- Offering new disciplines also in water sports
- Making already famous facilities even more attractive
- Higher attraction for new customers
- Increasing the degree of fame, USP, Publicity
- Increasing the profit by additional offers
- Synergetic effects with related institutions
- Taking contemporary designs into account
- Enhancing leisure networks of local tourism



Elements of Quality



Analysis



Actual goal analysis

- Finding out what recent design is like (e.g. certification)
- Comparing to competitive designs (nearby marinas, competitive sports offers, waterfront developments)
- Showing deficits/demand (our own and the ones of your competitors)
- Analyze target group (age, family, marital status, sports/hobbies)
- Price structure regarding to target groups
- Distances to attractive and reachable destinations



Estimated goal analysis

- Possibilities of an USP
- Become a model by additional service elements
- Point out niche function
- Optimize offers from deficits (your own + competitors)
- Adapt prices to target group
- Adapt service offers to target group
- Synergetic analysis (e.g. with golf club, competitive sport, other marinas ...)
- Become an important factor of tourism or urban attraction
- Offer an unique lifestyle opportunity
- Offer boaters service and maintenance facilities



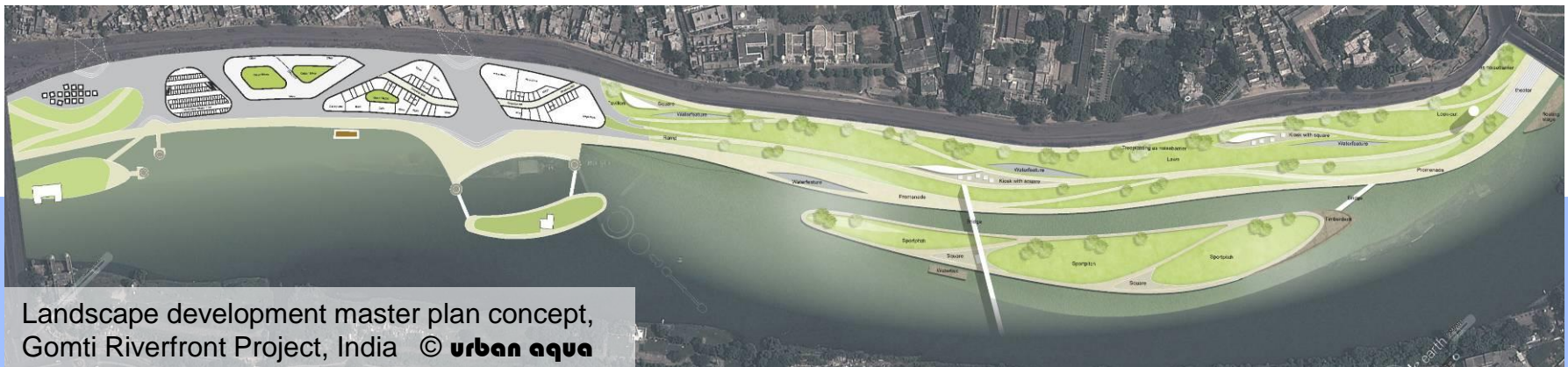
Results

- Develop a marina of the highest quality, offering a unique lifestyle opportunity
- Needs for more service and quality, offer boat owners service and maintenance facilities beyond their expectations
- Needs according to target groups, market situation and competitors
- Needs verified by analysis of actual situation and goal
- No blind activism as if to say „The more the better“
- Service and quality often mean increased prices
- Never force more service and quality no matter how much it costs, if the target group or the market doesn't agree with it
- Water sports is an important and growing economic factor in tourism
- Connecting water sports and tourism increases the number of tourists and economic power to a very high degree
- Trips to other marinas nearby increase the demand
- Lead number of tourist and invite them into the Marina

ECONOMIC FACTOR MARINA

Nautical tourism

- For each direct job at a marina, 9 indirect jobs are created.
- For every 100 berths, 44 direct and indirect jobs are created.
- For each euro of revenue at a marina, almost 5 Euros of revenue in indirect activities nearby are created.
- 100 berths create 2 million Euros annually in direct and indirect business.
- Example Spain: there are 4,500 direct jobs that create almost 40,000 indirect jobs.
- Marinas have a major socio-economic impact. They generate business, jobs and, in particular, are a draw for high-quality tourism.



ICOMIA Marinas Group: Marina figures and definitions

THE BIGGEST PART OF THE YACHTING EXPENDITURE IS NOT KEPT BY THE MARINA ITSELF.

2/3 OF THE BENEFITS GO TO LOCAL AND NATIONAL ACTIVITIES

WHICH IS THE AVERAGE YEARLY EXPENDITURE OF A PLEASURE BOAT ?

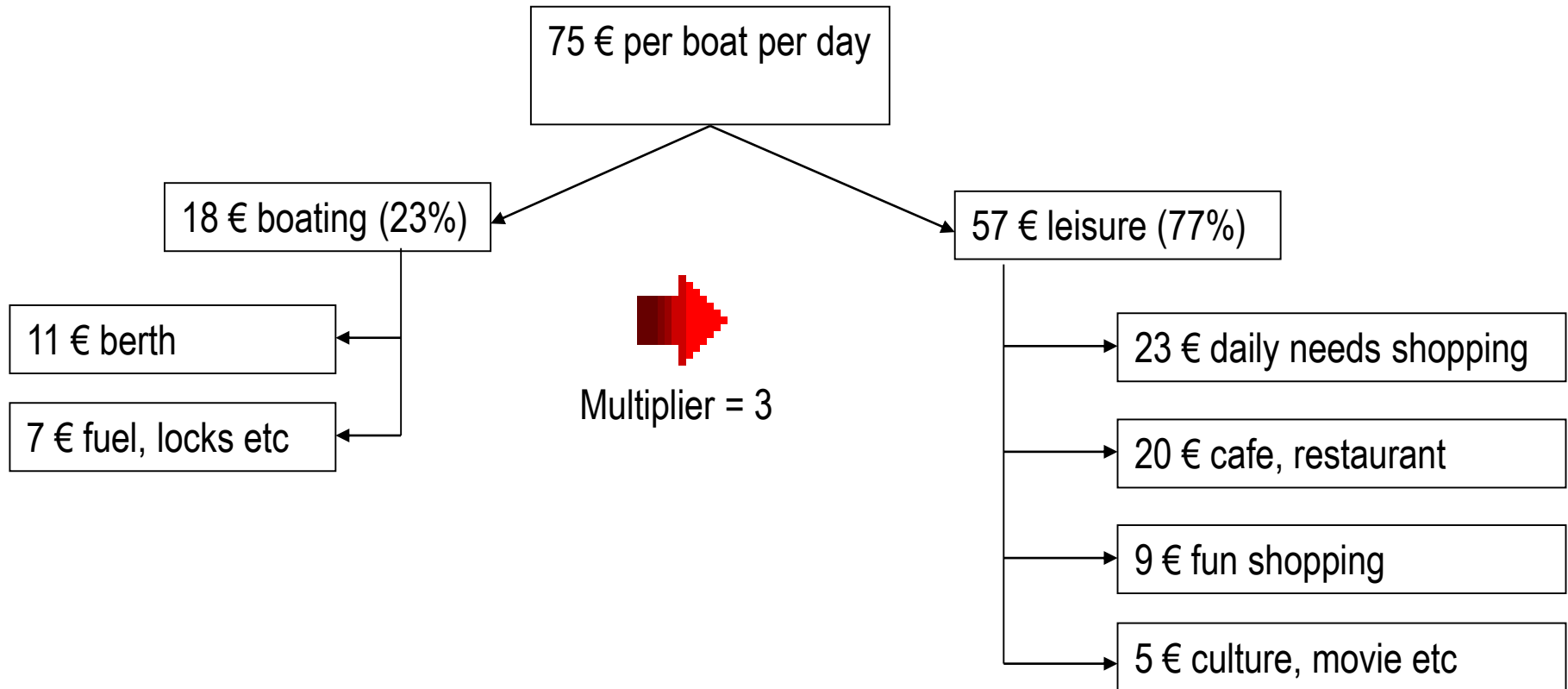
- 6000 EURO / YEAR (WORLDWIDE AVERAGE)

HOW MUCH EMPLOYMENT DO MARINAS PROVIDE ?

- 1 DIRECT JOB EVERY 25 BERTHS
- 1 LOCAL INDIRECT JOB EVERY 4 BERTHS



Socio - economic impact of yachting, spending / day in Europe



ICOMIA Marinas Group Introduction



ICOMIA
INTERNATIONAL COUNCIL OF
MARINE INDUSTRY ASSOCIATIONS

urban aqua[®]
waterfront development

The voice of the recreational marine industry worldwide

- ICOMIA represents the voice of the recreational boating industry worldwide. We have been the focal point of the industry since 1967.
- This site brings together a number of resources useful to any one wishing to know more about the boating industry throughout the world. ICOMIA's multiple committees address the issues challenging our industry and benefit from our truly global membership.
- Not less than 34 national federations across the world are full members of ICOMIA today. Our members include the vast majority of the industrialised countries from North America across to Japan and from Finland down to New Zealand. If your national boating industry federation is a full member of ICOMIA, we will also actively represent you as a member of the boating industry.
- ICOMIA – the International Council of Marine Industry Associations – presents a strong and united voice in representing the industry's best interests when dealing with international authorities and major organisations.

MISSION STATEMENT

The ICOMIA Marinas Group will be recognised globally as the peak Marina Industry body with respect to planning, development and best practice management for marinas, boat harbours, boat storage and service facilities, waterways access and associated infrastructure for recreational boating throughout the world.



GOALS

1. To promote and facilitate the sharing and exchange of information about all aspects of sustainable and sympathetic recreational marine infrastructure planning, development and management with particular focus on those nations in which recreational boating activity is emerging;
2. To educate governments and authorities as to the economic importance and environmental integrity and compatibility of marinas and recreational boating facilities with the view to easing regulatory barriers and constraints;
3. To conduct regular and formal bi-annual meetings of IMG Members at selected global locations for the exchange of technical, operational, environmental, marketing and other relevant information;
4. To conduct IMG 1-day Outreach Seminars where invited by host organisations to be staged in conjunction with the bi-annual IMG Member Meetings;
5. To endorse and promote management and employee education and training programmes offering globally recognised Marina Industry qualifications;

GOALS

6. To promote environmental protection as a core Industry value and to endorse and promote responsible and comprehensive Industry “Clean Marinas” programmes which meet the required criteria of the ICOMIA ‘Clean Marinas’ Programme;
7. To endorse and promote internationally recognised Marina Industry accreditation programmes;
8. To liaise, work with, and have input into all relevant PIANC Working Groups and to network/liaise with other bodies in the field of recreational boating facilities to ensure the achievement of feasible and workable outcomes acceptable to the Industry;
9. To establish within ICOMIA, a Boating Infrastructure Alliance involving marine industry manufacturers and marina industry participants to develop strong and unified strategies aimed at securing and preserving waterways access and sites for existing and future boat storage;
10. To organise and stage regular World Marina Conferences offering comprehensive cutting-edge informative sessions, workshops, field days, Industry trade exhibitions and networking opportunities.

THANK 'S A LOT FOR YOUR ATTENTION

Dr. Eng. Peter Jansen



© for all designs and sketches by JANSEN PROJECT CONSULTING LTD

www.urban-aqua.com

www.jpc-consult.de

Humboldtstrasse 40
D – 40237 Duesseldorf
Germany

Phone: +49.211.96895.0
Fax: +49.211.96895.20
info@urban-aqua.com