The Changing Coastal and Maritime Culture

The 5th Baltic Sea Region Cultural Heritage Forum in Tallinn
18 – 20 September 2013
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Forewords

Kalev Uustalu
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The National Heritage Board, Estonia

Organising the 5th Baltic Sea Region Cultural Heritage Forum in Tallinn in September 2013 was a great challenge for the Estonian National Heritage Board. Almost 300 people from Estonia, other Baltic States and elsewhere participated at the Forum events. The Forum offered its participants three days of interesting presentations, discussions and also excursions to places of cultural value. An important acknowledgement in the cultural heritage sphere – the local awards ceremony for presenting the Estonian Maritime Museum with the EU Prize for Cultural Heritage/Europa Nostra Awards Grand Prix 2013 for Conservation and Restoration of the Tallinn Seaplane Harbour – took place in the frame of the Forum.

The 5th Forum addressed the coastal and maritime culture in its various forms. Four thematic groups were discussed:

- Coastal and maritime culture and recreational tourism
- Traditional coastal culture and heritage landscape
- Heritage for a museum or to be preserved in situ
- Seaside areas as part of the cities

The Forum served as a platform for discussing the historical and modern directions for the development of the coastal and maritime culture, the problems and possibilities of heritage preservation, as well as the policy and practice of the states in solving those issues. The coastal areas are characterized on the one hand by a strong pressure on the cultural heritage and the living environment and on the other hand by the lack of function and decreasing population in the peripheral regions.

Underwater archaeology is a field where in order to achieve greater success it is necessary for the states to cooperate actively and on an international level with the authorities and museums dealing with underwater cultural heritage. Tourism is an important sphere through which the state resources that have been invested in preserving the cultural heritage, enable to stimulate the economy and place the country on the world’s cultural map in a more prominent manner.

I would like to thank all the authors who have made their contribution to this publication and wish everyone a pleasant reading.
The Baltic Sea and those rivers that drain into the sea have connected this area over the centuries. Waves of migrations brought here a mixture of ethnic groups with various languages and religions. As the main infrastructure of communication, waterways transported people, goods, skills and cultural influences. Even the creation and demolition of empires was linked to the control of the sea routes. This in turn led to new structures of communities and new ingredients of identities.

Thanks to this, today’s heritage in the Baltic Sea region includes both rich diversity and common historical influences. We share coastal traditions and a maritime culture, as well as similar cultural layers of environment in the region.

But it is not only our common past as neighbours that links us; heritage resources can also be used for our common future. Heritage assets embody attractions and fresh potential for job creation to rediscover. At the same time, the integrated management of heritage implies common responsibilities and urges the necessity of joint approaches. This was the main message behind the 5th Baltic Sea Region Cultural Heritage Forum.

The Forum aimed at valorising both the intrinsic values of heritage and sustainable ways of utilising these assets. The thematic focus was on the core elements for a regional perspective on cultural heritage assets; on coastal and maritime culture. Based on topical research and scientific methods, the presentations provided fresh interpretations of heritage. On the whole, the forum served to convince one of the importance of cultural heritage for us, the region’s contemporary people.

This Forum was the outcome of long-term regional heritage cooperation between state agencies operating in the cultural heritage arena. Culture in general, and heritage as an integral sector of it, was seen as a uniting element when reconnecting the region in the nineties. Cultural heritage was defined as being an essential part of the environment and an important factor for economic and social development. The Monitoring Group of Cultural Heritage in the Baltic Sea States (MG) was designated to launch and coordinate regional activities in relation to heritage. In terms of practical cooperation, the MG put together expert groups to cover relevant regional themes.

As the Forum’s hosts, the Estonian Ministry of Culture and the National Heritage Board were in charge of preparations, both of the Forum itself and of this report. Experts from two regional working groups, one on coastal culture and maritime heritage and the other on underwater heritage, have elaborated on the content of the forum together with the MG and the hosts. In addition, several parties have been involved in implementing the approach.

On behalf of the MG, I would like to thank the hosts of the 5th Baltic Sea Region Cultural Heritage Forum and all of the networks who have contributed to this event and the report.

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* More information on regional cooperation on heritage as well as past and future Forum-events: http://mg.kpd.lt/

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Our Baltic - Mare Nostrum. Rediscovering Hints of Maritime Archaeology through the Millennia

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The Baltic Sea is today indeed our Common Baltic, our mare nostrum. Of course we want our Baltic Sea area to have been and to be special and unique, and so it was, like any other maritime area of a comparative size. But was it a Common Baltic? In fact, if we look deeper, we will find that there are distinct natural and cultural properties of the North, West and East, South, to some extent conforming in a striking way to geological, thus topographical and climatological factors.

The maritime culture in general has also had a strong streak of universalism in it, at least in the Early Modern Times, which makes for profitable comparisons with, above all, the North Sea. I guess what little is common in the Baltic Sea area, is mostly maritime in nature!

The maritime aspect needs to incorporate the entire area, not just fragments of it, due to the potential of connectivity across it. There are very few efforts to do so, and if they do exist as exceptions, they use a source material that is limited in the maritime sense, either period-wise, socially or regionally. Of course, we are in possession of a large amount of older material. For instance, a politicized, but valuable reference for research from a German horizon before WWII, is still Otto Kunkel.

For the Mediterranean, we possess a prototype for an overview of a period, but this carries along far larger time perspectives, back to Classical Antiquity, i.e. Fernand Braudel, also referred to as a shining achievement by David Kirby. Compare preferably with the works by Sarah Arenson, Per- egrine Horden and Nicholas Purcell, which explicitly is a comment to Braudel, and lastly, David Abulafia. However, even in the differing Mediterranean approaches we find an overwhelming dependence on either historical sources or on (seldom) archaeological ones. The Braudel prototype also serves Johan Rönby, who successfully tries to offer another perspective of la longue durée, by placing the archaeology of human ecology in the archipelagoes of the north central Baltic in focus. Nevertheless, if there are compatible and comparable perspectives of the entire Baltic to be applied, the same kind of material must be used as sources throughout the periods in concern – historical as well as pre-historical.

History and archaeology

In addition to archaeology, historical overviews are valuable for certain other purposes. The reason is their material, althoughlop-sided as written socially “from above.” They summarize tendencies of political and economic factors of concern for the dominant groups. It is easier for an historian to concentrate on records of administrative procedures in shipping, and thereby unwittingly to contribute to a picture of only large-scale types of communication. This may lead to an “individualized” pattern of trade and politics. Even during the strictly speaking historical period, “everyday” maritime life in small-scale shipping, exchange, fishing, and hunting, is often under-communicated in such records. However, some narrative hints are invaluable, e.g. the works of Olaus Magnus at the end of the Middle Ages.

An archaeological perspective should above all try to be different, due to its material sources, and rediscover traces of other types and aspects of human life. In this case, I want to refer in particular to ship and harbour (of all types, also natural havens) archaeology in a statistical manner.
Archaeology in a maritime sense. There are indeed “anonymous” fragmentary statistics for cer -

Of course, this above is a very superfluous generalization of the relationship between history and

Hopefully serve as an inspiration for the future.

In a Lund conference in 1991 and another in Bornholm in 1992, dedicated to the same contacts

been the general idea for Norway and the rest?

Datings of log boats only concern the later period. Does this speak for skin boats, as has

only been found in the southern Baltic (Denmark c. 5000 BC), and still older in the Netherlands

found, except in the very south. It is curious that finds of log boats from the Mesolithic have

gian coast could not have happened without boats, but some kinds of vessels must anyway have

This tiny text does not claim to be even pioneering in this sense, but it should hopefully serve as an inspiration for the future.

Maritime and not quite maritime

In my original presentation, I used an interpretation of a large number of maps of the distribution

different cultural elements, which I had chosen myself, preferably with some personal bias. Of course, there could be others as well. In particular, I tried to keep to what probably had a maritime function in one way or another. These elements could have something to do with shipping (boat and ship finds, sailing marks, harbours/ havens), with the ship as a symbol (rock carvings, ship settings, boat graves) or with a clearly coastal distribution (burial cairns, stone mazes). None of these cover the whole area of the Baltic Sea. On the contrary, they tend to be considered more or less culture-specific. Although these maps are always the product of a time-bound source-finding process in our time, the general idea probably would be the same also with extended knowledge in the future.

Origins

Thus, it is not at all so that “we” all shared a lot of cultural elements during the time that will be in focus in the given article, but some of “us” did indeed. You will probably see that what I originally had omitted, which is a lot, would rather strengthen my argument.

Some of the omissions concern the diffusion and dynamics of language. The area contains at

least nine main languages and a corresponding number of recognized minority languages. This diversity dissolves into two families of tongues, which are commonly considered as not related to each other, the Indo-European one, dominant in Europe as a whole, with Germanic, Baltic and Slavonic as the groups of interest here, and the Finno-Ugrian family (Baltic Finnish, with Finnish and Estonian, and Saami in the North). An alternative, but controversial way of looking at language contact, interference and loan-words in the central part of the Baltic was in fact indicated by an archaeologist, Gösta Bågenholm.

Archaeological and DNA analyses seem to suggest an original immigration of Palaeolithic hunt-

gatherers and fishermen to the Baltic area after the Ice Age from two centres. One is the Fran-

coo-Iberian cluster, the other approximately Ukraine. The rapid penetration of the entire Norve-

gian coast could not have happened without boats, but some kinds of vessels must anyway have existed in the whole area. It is obvious, however, that no fragments of these boats have been found, except in the very south. It is curious that finds of log boats from the Mesolithic have only been found in the southern Baltic (Denmark c. 5000 BC), and still older in the Netherlands and further south on the continent. The entire north and east of the Baltic area lacks them completely. Datings of log boats only concern the later period. Does this speak for skin boats, as has been the general idea for Norway and the rest?

Already about 10 000 BC, there may thus have been pioneers in the neighbourhood of the North Cape, coming from at least three contemporary directions, one by way of Norway, one across Swe-

den and another in the Finnish northwest. Their descendants were also left on that road.

One of the salient hypotheses of the spread of Indo-European languages relates it to the slow penetration or adoption of agricultural pursuits in Europe during a period of at least 4000 years from Asia Minor to the Baltic, pioneered not by a linguist, but by a prominent archaeologist, Colin Renfrew. Other former language families were entirely superseded, except by the Basque lan-

guage close to the Pyrenees and the Cantabrian mountain range of Spain, the Etruscan in Italy (extinct) and possible Baltic Sea Finnish (later to become Finnish and Estonian).

The crossing of the elements of the first agricultural pursuits from the Southern Baltic to Scandi-

avia occurs gradually around 3000 BC (within the Ertebølle culture). It is interesting to note the reluc-
tant adoption of agriculture in these southern parts of Scandi-

navia. After an initial adaptation to agricultural pursuits there even seems to occur a reversal in certain groups to hunting and fishing, by way of the coastal seal-hunt-
ing Pitted Ware culture (Sweden, parts of Norway, and Denmark), in its lifeways comparable to what is known as the Comb-Ceramic groups of Finland and further east.
However, agriculture was not adopted in the Eastern approaches to the Baltic (Carelia etc.) until ca AD 500, perhaps indicating an original presence from the Mesolithic of a Proto-Finno-Ugric stratum in this region. Is what we see perhaps a far-reaching continuity, in life styles as well as in linguistics?

A tendency, which may be of long standing in the Baltic Sea area, is thus the differing approaches – from reluctant acceptance to, in fact, some extent successful resistance – to basic continental impulses, in our time often called “Europeanization.” Two main factors are, as mentioned, the introduction of agriculture, which was treated in the keynote to some extent, and another, the exceedingly slow (and intermittent) introduction and spread of Catholic and Greek-Orthodox Christianity, which was not treated, just mentioned in my keynote.

This presentation exposes briefly some of the manifoldness and the versatility of the area and its human resources. This manifoldness is, I believe, a great advantage both to the interaction of the future, and to the study of history, in “a kind of northern version of the Mediterranean”. However, is the Baltic Sea not a uniquely valuable context in its own right, without reference to a much larger and traditionally more prestigious area?

Names

As we know, the maritime positioning in the Baltic differs slightly. In English, Polish, other Slavonic and Romance languages etc., we have The Baltic, Baltik, La (mer) Baltique – very likely the result of outsiders referring to a category of a sea “beyond the Belts” which are Store Belt and Lille Belt, channels between the Danish Islands. It was originally applied in a much more narrow sense than it is today – to a restricted area south of the Danish corridor. The modern use of concepts like Baltic, baltisch, etc., is due to a process going back to Adam of Bremen in the later part of the 11th century, and in the case of the languages of the Balts, a development in the former Russian Empire to designate its provinces south of the Gulf of Finland. This toponymic process was addressed by Joseph Svennson in 1953.

To most outsiders, the Baltic Sea ends only with the Kattegatt, the water area south of the justly feared point of the Skaw (Skagen), that is, the Skagerak, named after the point, starts northward. Such classificatory divisions may have been differently applied in the past. Another dangerous point and border-line seems to have been the sandy point of Skanör south of Malmö, possibly a good reason why the Skanör promontory, former islands, was known by the modern auctores. This spit carried the ancient Germanic name of Skopan-ajo, a warning name meaning “the island of damage”. It was of such significance that the whole of Scania, originally thus Scandinavia, was named after it. The linguistic remains at the spot are still found in Skanör, Scania/ Skåne.

Other examples of names of the Baltic, some conforming to the international pattern are in Latvian Baltijas jūra, Lithuanian Baltijos jūra, but for once a direction-true Estonian Läänemeri – “the Western Sea”, then Finnish (Varsinaiset) Itämeri – “the (true) Eastern Sea” (which must be due to influence from the West, most probably Sweden), Scandinavian of course Østersjøen, Østersøen, (former Eystsvatn) – “the Eastern Sea”, as well as German Die Ostsee – “the Eastern Sea”. The Danish lands are still marking the pivot between the great seas up here.

There are various more regional concepts covering parts of the Baltic and the Bothnian Bay (Finnish Pohjanlahti), or parts of it in a proper manner e.g. Penämeri, Merenkukku & Selkämeri, Atven-ameri – “Sea of Åland”, Saimismomeri – “Sea of Archipelago”, with corresponding concepts in Swedish, and the Bay of Finland, which of course is Estonian Soome laht, to Soome, Finnish Suomi, Finland (where it is Suomenlahto), and various other related names in different languages.

Each of these regions may certainly be worth a maritime archaeology or history on its own cultural merits. The conference project of maritime history called Botnisk Contact, started by me in 1982, and mostly dealing with the Bothnian Bay, i.e. the water area north of Stockholm-Åland-Åbo (Turku), is still alive after 17 meetings with two years in-between (in 1994 we met in Tallinn).

To compare maritime positioning: in the important maritime area of the Low Countries the close varieties of seas resulted, as we know also in a Zuiderze, a Middelzee for that route which is called Binnen de Duinen, “inside the Dunes”, and a (true) Noordzee etc. An Oostzee is of course natural, as well as a Westzee, which is in a strict sense mainly the English Channel (e.g. map of the North Sea in Van de Noort 2011, p. 5).

Nature

The influence of nature on cultural manifestations is obvious in the Baltic area. However, it is not enough to suggest that only the watersheds for rivers debouching into the Baltic Sea, an excellent hydrographic starting-point, could also be considered the relevant cultural borders of this area, but they are certainly important also in this sense.

The toponography of the Baltic Sea area is a product of the last Holocene glaciations also treats paleoseisimicity in Sweden, including dramatic events such as postglacial tsunamis, of which some elements may have had archaeological implications, of course very obviously including maritime environments.

In the north we find strong land uplift since the last glaciation, rocky coasts with polished rocks, boulders and pebbles, but less sand. In the south, there is land sinking found south of a border-line from the western Limfjorden area to Rügen in Germany, and mainly sedimentary coasts with sandy beaches and spurs of sandy sediments outside the estuaries of continental river systems. The distribution of a whole bunch of cultural elements conforms strikingly well to this division, hopefully without making us determinists, slaves of nature…

Basically, the Baltic is an inundated plain or valley with some deeper troughs and holes, in particular in the central part and sometimes in the Bothnian Bay. The land relief is low, except for a tiny area called the High Coast in Sweden, in the province of Ångermanland. Together with the opposite Low Coast of Osterbotten, this coast forms a UNESCO World Heritage (largely because of the history of the discovery of the process of land upheaval and its causes). The world’s highest marine limit (Skuleberget) since the Last Ice Age of 287 m. a. s. l., is found here. Also, one of the deepest holes of the Baltic, Ulvödjupet, of about the corresponding depth, is found here.

The climate is fairly tough during winter, but even in the north the effects of high latitudes are alleviated by the eastward winds from the Gulf Stream outside Norway. An application of the climatic zones to urbanisation shows that medieval towns in the area were only founded south of the boreal and alpine zone. A high percentage of these cities, more than 80 %, were maritime in the most relevant respects.

The most important hydrological factor is the brackish water of the Baltic. It is the greatest boon to shipwreck archaeology and to the preservation of organic material. The reason is the present absence of the Teredo navalis, the ship worm, and of its cousins. However, beyond the Middle Ages we find little – no Iron Age, no Bronze Age. Is this due to influx of more salinity from the Atlantic in earlier periods, or are we looking at the wrong spots (if at all)?

The other factor is the winter ice, of which the cover varies according to the climatic fluctuations. Olaus Magnus records winter travel, even with wooden huts placed on the ice (for fishing, or as inns?), in the Danzig area AD 1539. Even in the north, however, the Baltic offers stable polynya, open channels reappearing in the same area, where not only seal hunters may have found useful passages on water. Although the winter season is difficult for other reasons on the Atlantic, sailing has normally not been consistently impeded by ice during the winter.
Some human aspects

The crossings of the Baltic Sea are mostly of a fairly limited distance. Most important cultural transmission areas are within the scope of the salus per nostrum, the night leap from the coast to coast, by way of larger island, like Bornholm and Gotland or island chains in the Sea of Åland. During the illuminated summer nights of the north, distances may be ignored even in this line of thinking.

The sedentary history along the coasts of the Baltic Sea is highly variable. In the south the landscape was presumably more or less fully cultivated in the Late Neolithic, as an outgrowth of continental conditions. From my own study area at Omvik in Northern Ångermanland, Sweden, I could contrast these conditions with a waterfront or shore line zone (within a few kilometers inland), where sedentary agriculture was found only during the Iron Age, a coastal area zone up to 50-70 kilometers inland with medieval farms and hamlets established during the medieval period, and a vast inland zone only colonized by farmers during the 17th and 18th centuries AD. This does not exclude sporadic (but interrupted) farming in a pioneering stage ca 2000 BC, nor the continuous exploitation of coastal resources by semi-nomadic groups, presumably found seasonally also inland. Import of Southern (Danish or Scanian) flint stone are interspersed with the normal implements of local rock resources. Possible maritime implications are not necessarily uninteresting.

Common prehistories?

There are seemingly no common prehistories from the Stone Age to Late Iron Age. However, the Baltic amber, used locally even in the Mesolithic, should be considered as one of the most important trading goods in exchange for bronzes, copper and tin, for which no Baltic resources are known. Of the truly original words of the Baltic, two belong to amber: the Slavo-Baltic ungu, and the Danish rav. Although found at the shores, it is doubtful whether amber had particular maritime implications southward (rather riverine ones) in the sense of transportation.

As to the striking abundance of rock art, the distribution of the carvings generally follows the coasts of Scandinavia, mostly in the west. There are rich Mesolithic and partly Neolithic occurrences. The most prolific complex in the south belongs to the Bronze Age with a definite connection to the shores and coasts. Rock paintings are an inland phenomenon, in Northern Scandinavia in Finland, and probably belong to the transition between the Neolithic and the Bronze Age. Of course, the topographic conditions of the south (as mentioned) would exclude rock panels of the Northern kind, but in Denmark there are the same kind of Bronze Age carvings on boulders. Otherwise, this type of art and its motives are almost unknown in the Baltic. Whatever the maritime implications would be for such an obvious connection to the shores as that of rock carvings and together with them the coastal burial cairns, they certainly imply a cognitive world, where both location and motives express a human relationship to the sea, or more specifically, a relationship of perceived contrasts between the sea and land.

Already in the Late Neolithic in Southern part of Baltic area, the outlines of a boat are constructed in graves (e.g. Scania, Sweden). The ship as a symbol must have had a deep funerary significance in the Bronze Age. Some of these graves are visible on the ground and develop into magnificent ship settings with large stones, some of them clearly of an unrealistic size to be based on existing vessels. This ship-setting custom reappears in earnest during the Late Iron Age. The areas in concern are concentrated to the southwest of the Baltic, but occurrences of ship settings are also found concentrated far inland, in contrast to rock carvings and burial cairns of the Bronze Age. Burials in real boats belong to the Iron Age, with a few known exceptions (even down to the Mesolithic times, and its distribution displays the extent of the Scandinavian Viking world). The whole complex of boats in burials and boat-like burial sites with related medieval texts on past Nordic notions of cosmology, was treated as a part of religious history in a less well-known work in Swedish by Åke Oihlmarks.

This obsession with boats seems to be a culture-specific trait of Scandinavia, which has no parallels elsewhere. However, even if one discards the magnificent Indo-Europeanness of the three-fold (tripartite) structures in society and pantheon (théologies tripartites) of Georges Dumézil, it is hard not to get fascinated by the Indo-European perspectives offered by the archaeologist Anders Kaliff. There, the cosmology of the primeval giant being cut up into pieces representing the principal components of the world, find striking resemblances (identical in fact) between Scandinavian and Indo-Iranian sources. This giant is in both cases called “Twin” (Yima, Yima). This myth is applied to archaeological material by Kaliff. However, do we know of e.g. similar burial and fire cults on altars, hearths or platform constructions interpreted as such outside the present Hindu and the Scandinavian Bronze Age? We ought to find them at the Southern Baltic as well… However, no particular maritime phase can be found of this ideology.

Seal hunting is still of great interest along the coasts in the Late Bronze Age, not only in the western parts of the Baltic. An interesting case is the occurrence of sites of blubber extraction (some 300) on the island of Kôkar in the Åland islands. It was formerly thought that the pottery found there was of Lusatian type, originated in present-day Poland. Today it is rather believed that this pottery type may have spread according to the process of normal cultural transmission, successively from parts of Denmark northward through east Sweden to Finland. Whether its occurrences in Åsva type (fort-like) settlements in Estonia are implicated in this direction of the “flow”, is unclear. They could in fact be due to direct contacts to the core area of the Lusatian culture in Poland, since they do not seem to occur in the area in-between, in Latvia and Lithuania according to Uwe Sperling. Whether this means maritime connections apart from some short passages, cannot be ascertained.

harpoon
(Photograph: Christer Westerdahl).

Romantic ideas of a “first Swedish Viking Age” in the Late Bronze Age once compelled the Swedish archaeologist Birger Nerman to such an interpretation for the similarities between the bronze celts (in “local Swedish parlance” målsdolaxfyr) of central Sweden and those of inland Russia (northern Volga zone). These parallels have found other interpretative frameworks today. Molds have only been found in Russia, and following the import/export or expansion line of thought of Nerman, it would perhaps be more relevant to apply them the other way around – Russian Late Bronze Age “colonialism” in Sweden?

Interaction and warfare

A few remarkable finds of isolated instances of eastern objects from the Mid-Iron Age have been found on the western shores of the Baltic. One is definitely of Roman Iron Age and Estonian origin and found far from it, at Storkåge in Swedish Västerbotten. They may serve as examples of such finds throughout the past. Their maritime meaning is nebulous, but a sailing ship has in fact been carved (outlined) on the object of the most distant origin, the Finna brooch of Ångermanland, also found in Sweden, obviously of the tradition of the Oka/Kama river area of northern central Russia and presumably made a few centuries later (late Migration or Vendel/ Merovingian period).
There may have been many examples of ethnic interaction and meeting points for different groups in prehistory, but we have only fragments to refer to, and only in the literate age. At the root of Jutland where during the Viking Age Saxons, Frisians, Danes and Slavonic tribes met according to the present place-name material (e.g. Crumlin-Pedersen 1997, map p. 33). A somewhat similar situation is indicated by various medieval immigration processes in the south, some initiated by the political situation. One case is the occurrence of Slavonic place-names on the Danish island of Falster. We also know of Slavonic immigration on Bornholm. The unique vessel-handling site of Maplebrænde on Falster demonstrates details of different ship types and models with various backgrounds. This many-sided interaction could obviously influence shipbuilding. Whereas, the so-called Nordic shipbuilding techniques are fairly uniform in clinker style with iron nails, vessels built in the West-Slavonic part of the Baltic display various other characteristics (lower and flatter hulk shape, tree-sided strakes), which may amount to an independent form. At the curious shipbuilding site of Puck in the Bay of Gdańsk, we meet a mixture of both traditions.

In the social sphere, we discern traces of earlier endemic warfare, but less obviously influencing settlement. The first great weapon sacrifice from ca 300 BC at Hjortspring on the island Als in southest Denmark includes a unique boat, a large warrior canoe of 20 ms, made of lime-tree. The kind of elastic boatbuilding displayed by this vessel was thought to be unique until a related find of a thwart was discovered in 1991 in Hampnäs/ Själevad in Swedish Ångermanland, much further north. It was made of pine, and presumably local. It seems that this kind of boats were spread with the usual rapidity of "military" technology. However, a very basic form of these boats seem to conform well with boats depicted in rock art already in the Early Bronze Age (ca 1800 BC).

From the Late Roman Iron Age (from ca 200–400 AD) and forward, there are already signs that settlements are displaced further inland, which may have to do with the threat from marauders on larger clinker-built vessel of the Nydam type ca 300 AD. It was found together with another large weapon find in Denmark (with sacrifices in several stages at least from 250–500 AD). This idea was put forward by Erik Nylén on the evidence of Gotland, and the process of withdrawal from the coasts has probably been confirmed in certain areas of Denmark. There are certain indications in the Nydam finds and others during the same period of raids of Eastern origin, including Gotland.

The kind of warfare implied is that of chiefdoms, more or less equal in status which fight each other with plunder for redistribution in mind, and maybe also for enforced tributes. The relationship between many Iron Age societies, the outward appearance of which looks somewhat like this, is characterized by the British archaeologist Colin Renfrew as Peer Polity Interaction (PPI).

An example of this would be the background of the unique find of a mass grave in two boats at Salme in Saaremaa, Estonia. It dates to a period, 8th century AD, where semi-historical sources (Ynlingatol about the Uppsala dynasty, etc) refer to Swedish (Mälaren area: chiefdom or kingdom) maritime raids to collect tribute precisely in this area. A more "colonialist" attitude permeates the outdated work of Birger Nerman on contacts during this period, but it is certainly still of some value.

For almost the entire ship history of the medieval period, we possess an unparalleled work in Eimlers in 1972, and of course not exclusively on the Baltic. However, it would be a valuable contribution to the Stand der Forschung to bring that part up to date. A valuable overview of the early Middle Ages in the area is the tiny booklet with a lot of distribution maps by Müller-Wille from 1989.

Common histories?

Are there common histories? A very short survey was made in the keynote by way of maps of later periods, Middle Age to Early Modern Times.

During this time-span, we witness the successive replacement of the Scandinavian dominance in shipping with a raiding kind of type PPE by the forceful conversion and land-taking of the various Crusades and finally the trading near-to-monopoly of the German/Wendic Hansa. Low German would for centuries have been close to a lingua franca in maritime and urban contexts around the entire Baltic, the only one that we know of so far.

Around 1300, we find the first sequence of points during a journey along the Swedish east coast by way of Finland to Reval/ Tallinn copied into the tax register (Jordebog) of King Valdemar Sejr of Denmark (1202-1241). As indicated by me, its structure may reveal the existence of local pilots. We have a few references on such specialists in the Chronicle of Henry of Livonia.

For the extent and dispersal of maritime trade in heavy goods we have, for instance, the Gotlandic baptismal funts of sandstone from the Klinte area (and to some extent other sculptures), which were exported to a large area mainly in the Baltic and to some extent outside of it, from isolated occurrences at Bruges in Belgium to Umeä in Västerbotten in the Swedish north as the extremes. Dendrology applied on shipwrecks outside the Baltic seem to point out what has already been indicated in few instances of textual evidence in e.g. England, that fairly large quantities of south Baltic oak were exported for such purposes and certainly others as well.

Textual evidence, unfortunately fragmentary, seem to reveal certain interesting facts on sailing in the Baltic. A note on the mappamundi map of Fra Mauro in Venice from AD 1458 tells us that maps and compass are not used in navigation in the Baltic, only the lead. However, during a slightly later period, ca 1500 AD, the sailing directory of Das Seebuch (Dutch/Low German) documents the existence of routes by way of large islands like Gotland in a variable pattern across the Baltic, however, clearly depending on the use of the compass.
The dominant vessel type would be the cog/ die Kogge as the principal implement of the Hansa, often modelled in archaeological literature on that of the Bremen find (ca 1400 AD). The lure of the cog concept led recently to a particular designation “Baltic (type of) cog,” pinpointing above all two wreck finds in northern Germany: Gellen and Poel. The local pine curves indicated a dating at the end of the 14th century. However, recent research has shown that these ships belong to two quite different contexts. They were finally dated to the late 18th century, when Pomerania was still Swedish, and around 1840 both on South Finnish pine curves. The old-fashioned and partly cog-like features of these wrecks rather express the longue durée traditions of small-scale shipyards and peasant shipping. This fact would also point to a social interpretation of such tenacious technologies.

Ancient monuments on the coast

As to an example of coastal monuments of Baltic significance we could choose the coastal stone mazes. Their inception seems to be around 1300, but they were still laid out in the 19th century. Perhaps 600 of them are still extant, but clearly culture-specific in the Baltic, conforming to the medieval spread of Swedish-speaking fishermen-farmers in Sweden, Finland and Estonia. Otherwise, we find small clusters in northernmost Norway, obviously belonging to the Saami culture, and in the White Sea area, esp. in the Solovetsky Islands.

Parallel to the cog, a large variety of ship types must have plied the Baltic in this kind of small-scale traffic that should interest us in particular to redress the balance of former accounts. A fairly large shipwreck of another type, is that of the mid-16th century “Ringaren” (working name) from the eastern archipelago of Sweden (Tjust), the cargo of which seems to confirm trading contacts above all to the southern Baltic (Danzig area). Nowadays, there are several other finds of the whole period. A large material of shipwrecks has been discovered with invaluable new knowledge on ship building and cargoes. It has, as indicated before, become so large, that we are in need of a synthesis based on contextual variety.

If we want an epitome of the Late Middle Ages in the Baltic area we should turn to the illustrated ethnographic “map” of Olaus Magnus, the Carta marina (actually not his own name of it) of AD 1539. Of course, this is a patriotic expression made in Italy of a nostalgic Swedish exile, he lived for ten years in Danzig (Gdańsk) as a member of the Swedish Catholic expatriates - is unusually many-sided. This “map” should always be studied in its original size, which is quite large - to understand the details - not as an example of cartographic accuracy, which it is not.

If we also want an epitome of cultural contacts and eminent monuments of local identity, which illustrates a large bunch of Baltic prehistory and of its Middle Ages, we should of course look at Gotland. This large island in the middle of the main part of the Baltic has a unique mixture of cultural traits, doubly fascinating due to their preservation.
In fact, I have also compared the mazes in their possibly original function to the chapels placed at small harbour churchyards in the skerries, a typical occurrence in the maritime culture of Scandinavia and Finland.

Of course, we should also mention sea marks of which a few might be dated to the Middle Ages. However, most of these could be dated to the latest part, ca AD 1450-1550 and forward. In maritime matters, this era is marked by new economic and political processes, new ship types, and, concomitantly, partly different sailing routes necessitating new marks. According to my deliberations the inspiration (and sometimes the direct initiative) comes from the Low Countries and North Germany (the Hansa league). A number of important innovations in ship construction and sailing at this time and somewhat later: carvel-build, sprit-sail, stay foresail, bowsprit, rounded stem and stern (sometimes with comparatively flat bottoms) the transom stern, keel with a rabbet - were also derived from Holland. Strikingly rapidly, these innovations filtered down to vernacular smaller vessels, including oar tholes with pins instead of the traditional hå. However, they were originally restricted to large-scale shipping and certainly not accepted everywhere, especially not in the north. Gradually, however, they became dominant. Social factors should never be neglected in the study of such changes.

The East

The port of Tallinn is situated between the West and the East, as is revealed poetically by the fact that its eponymous ancestors, Linda and Kalev reappear in the dominant place names for it in Scandinavia and Russia, Lindanäs and Kolyvanj. It could as well be a beautiful illustration to the general situation of the Baltic throughout history.

Hitherto, we have been talking mostly of the West. It is important to connect the Baltic perspective to the immense inland area of the east, to the Russian traditions of boat material and its rivers. In the very innermost north of the Baltic, we find traces of Karelian penetration of at least 13th century date along the inland river routes of present-day Finland (e.g. a trading post at Hietaniemi at the Torne river, Norrbotten Sweden). The northern part of the Baltic sea area together with North Russia is the last home of the traditions of the sewn wooden plank boats in Europe, apparently dissolving into Saami, Finnish and Estonian-Karelian-Russian subtraditions.

All through this area we meet the clearest proofs of portages between rivers and along rapids, already documented for the Rus Vikings by the Byzantine emperor Constantinos VII Porphyrogenetos (AD 905-959) between AD 948-952 along the Dnepr in present-day Ukraine. Traditions of expanded log boats and of various other techniques of making vessels in the East remain to be studied. Also the phenomenon of “intermittent travelling” in inland areas (with the vessel carried or dragged on the ground or in the water) is to be taken account of in other Baltic (and North Sea) contexts.

Summary

There is little but the spread of vessel technologies to illuminate actual contacts or interaction of a definitely maritime character, but dispersed glimpses of interaction and/or transmission between differing cultures do appear.

As to the traditional transport zones of the Baltic area I have suggested a generalized picture for the Iron Age and early medieval times.

As to the cultural elements that could be deduced for the purpose of an overview of the past, I suggest very much a variety of different, more or less “culture-specific” divisions, but certainly in many cases overlapping:

Those which are common to the south and to the west.
Those which are common to the north.
Those which are common to the east.

That leaves a tiny common heritage, which is common to all of the Baltic, but these are at the same time mostly common to either the Scando-Baltic area, to the North Sea area, or to the whole of Europe.
This is the nature of an "international", "interregional", maritime culture, later sometimes creating new identities of its own. It is first apparent during the Viking Age and the Middle Ages c. 750-1500, and fully developed only during the following centuries.

Students of the Baltic need not feel inferior in maritime matters to the Mediterranean. Maritime ethnography was practically born here, its study of small-scale everyday maritime cultures or the diversities of vernacular ship and boat types is, I think, superior to its more prestigious rival. Probably this would go for their respective records of older maritime oral tradition as well. And the unique and enormous potential in the Baltic of the absence of the Teredo (at least for most periods) is beginning to show in earnest. However, so far not beyond the Middle Ages...

The very diversity of the Baltic Sea area through the ages is its greatest asset, posing unique questions of changes, of contact and lack of contact, maritime or not maritime in character.

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Introduction

UNESCO’s 2001 Convention on the Protection of the Underwater Cultural Heritage constitutes the first big commitment of the international community towards the global protection of the submerged part of our cultural legacy, which remains still largely unattended and yet little visible for the public. This international treaty is a legal framework that gives a comprehensive and specific definition of the underwater cultural heritage. It offers all the necessary and appropriate legal tools to ensure ethical underwater heritage protection and research as well as the dissemination of knowledge about it.

The 2001 Convention has been ratified already by 47 States - only one from the Baltic Region, and many more States are preparing its ratification. After 12 years of its adoption by UNESCO General Conference, the Convention is proving to be the best system to protect the underwater cultural heritage, without identifying ownership of the heritage or redefining the maritime zones. Nevertheless, it has become urgently necessary that the States Parties reinforce its implementation through the harmonization of their national laws, the investment into scientific research and the adoption of management models in harmony with the Convention’s principles and with the growing social demand for cultural heritage interaction. The social conceptualization of the heritage should be understood and redirected towards a major involvement of the community in the enjoyment and safeguarding of the heritage.

The UNESCO 2001 Convention on the Protection of the Underwater Cultural Heritage

The 2001 Convention seeks to ensure the same level of protection to the underwater cultural heritage as that provided for cultural heritage found on land. Each State Party, if so wishes, may choose to develop even higher and better standards of protection. The Convention aims at fostering scientific underwater archaeology and to develop methods of cooperation between States. Together with these goals, the Convention looks to develop new ways of in situ protection and accessibility, raising awareness among the different actors potentially affecting the underwater cultural heritage.

The States Parties commit themselves, by ratifying the 2001 Convention, to preserve the underwater cultural heritage - for its public enjoyment, taking the appropriate actions to protect it; to follow the Rules for activities directed to underwater cultural heritage sites reflected in its Annex - observing as a first option the in situ protection of the sites; to fight against commercial exploitation of underwater archaeological sites for trade, speculation or its irretrievable dispersion; and to cooperate with other States Parties assisting each other in the protection and management of submerged heritage as well as developing the discipline of underwater archaeology. This is interesting, for instance, in the case of shipwrecks, where crew, cargo, port of departure and port of destination always have different locations or origins, being a common heritage to several States Parties.

The Convention stresses moreover the importance of the public in the protection of this heritage as well as the right of the public to enjoy and appreciate it. Rule 1 of its Annex even refers to the enhancement of underwater cultural heritage as a cause for an intrusive intervention. This reflects the importance that social valorization of underwater sites has, since through its enhancement and enjoyment, awareness and knowledge are raised for its protection. The Convention also explicitly encourages the responsible access of the public to the sites, as long as this does not put them in danger.

The indifference of society towards protection - that necessarily follows the current relative invisibility of submerged heritage - leads to the development of misunderstandings about the value of underwater heritage, that can be noted even in scientific circles, and which put its preservation at risk.

The 2001 Convention also establishes an international cooperation scheme with clear provisions in order to render protection in all maritime zones effective. In general, maritime zones are the Territorial Sea, the Exclusive Economic Zone (EEZ) and the Continental Shelf, up to 200 nautical miles from the baseline and the High Seas and the Area, which is the sea bed outside national jurisdictions. The cooperation will depend on the location where the heritage is found.

Underwater archaeology and the management of underwater cultural heritage

The research of underwater cultural heritage is a scientific field with an incredible potential for the study of human history and the social interaction among different communities through the water environment. While the main text of the Convention establishes basic protection principles and a detailed cooperation scheme, the Rules of its Annex contain widely recognized practical rules for archaeological interventions and other activities carried out on submerged heritage. The rules are of capital importance in the development of good practices in underwater archaeology. They set up a clear and directly applicable operation scheme for underwater interventions. They are the most internationally recognized operational directives for underwater archaeologists and the academic community as they contain all factors to be taken into account for the preparation of activities directed at underwater cultural heritage.

According to the Convention and its Annex, States Parties should moreover provide education and training on cultural heritage management and research as well as they should establish their competent authorities.

UNESCO, in collaboration with States Parties and reliable implementation partners, organizes capacity building programmes on underwater archaeology, conservation and preservation methods, and underwater cultural heritage management. In this sense, UNESCO has recently published a practical training course manual and a Manual for activities directed to the underwater cultural heritage, a complete guide based on the Rules annexed to the Convention.

Article 1, para. 1 (a) “Underwater cultural heritage” means all traces of human existence having a cultural, historical or archaeological character which have been partially or totally under water, periodically or continuously, for at least 100 years such as: (i) sites, structures, buildings, artefacts and human remains, together with their archaeological and natural context; (ii) vessels, aircraft, other vehicles or any part thereof, their cargo or other contents, together with their archaeological and natural context; and (iii) objects of prehistoric character.


3 Both manuals are available digitally in UNESCO’s website: www.unesco.org/en/underwater-cultural-heritage
The involvement of the society

It has been already stated many times that the underwater cultural heritage is of great importance in understanding key aspects of human's historical and anthropological features whose traces have not easily survived in land environments. The submission of these testimonies of our society either by natural causes or by human factors has resulted in their invisibility until very recently, when the development of diving technology has allowed access to them. This access has produced a slow change in the mentality of the society, creating a big interest and attraction for that part of history that remains undiscovered.

This change has led to a comprehension that the values of culture are as important in land as they are in other geographical environments and that, therefore, they need to be studied and considered with the same respect. In fact, the lack of valorization and global understanding of culture have led, in many cases, to look for the economic benefit produced by the looting and the commercial exploitation of the cultural heritage. These factors have become some of the most negative impacts that destroy underwater cultural heritage. To raise awareness about the fragility and importance of the submerged heritage is a priority for its protection.

The accessibility to underwater cultural heritage has allowed the development of the scientific discipline of underwater archaeology. The professionals working in this discipline have become more and more aware of the threat of commercial exploitation and pillage. They hence raised their voice and expressed their concern about the harmful nature of irresponsible and unethical access to underwater heritage. It was due to these expressions of concern that the demand for an international agreement on the protection of submerged heritage was heard.

One of the Convention's capital focuses is the importance of public awareness and the access to the underwater heritage. UNESCO is fully aware of the huge potential that underwater cultural heritage has in reinforcing society's identities, gaining of knowledge about our past, as well as increasing sustainable development and long-term responsible tourism.

Divers are among the first to find and access the underwater cultural heritage. That is why divers have to be considered allies in the protection of the heritage. UNESCO has signed a collaboration agreement with the World Confederation for Underwater Activities (CMAS) to increase awareness of the fragility of the underwater cultural sites among divers and the need to protect them.

The visibility provided to the submerged heritage and its public access, via the creation of specialized museums for instance, could also be a strong factor for urban sustainable development. The increase in the financial activity of a certain area brings along the restructuration of the urban landscape that surround it, and the redesigning of the coastal and urban management plans, involving the heritage and the local community. This, however, needs a strong commitment from the national and local administrations, as well as other targeted groups. (Fig. 2).

It is hence more than necessary to foster the involvement of society. Rules 7, 35 and 36 of the Convention's Annex pay attention to the social implication within the protection of underwater heritage, stress the necessity of dissemination of research project results and of designing educational activities to help in the understanding of the submerged heritage's historical value and fragility.

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4 University of Alexandria (Egypt), University of Flinders (Australia), University of Southern Denmark (Denmark), University of Southampton (United Kingdom) and Selçuk University (Turkey).

5 The 2001 Convention was adopted on 2 November in Plenary Session by the 31st General Conference of UNESCO, becoming the fourth UNESCO Convention protecting cultural heritage. It stepped in so important traces as such of the World Heritage Convention of 1972. Not unusually for a legal text dealing among others with the law of the sea, it took several years to enter into force. This happened in 2009, when the 20th State deposited the legal instruments for its ratification.
Conclusion

The UNESCO 2001 Convention on the Protection of the Underwater Cultural Heritage is the most comprehensive and advanced international tool to ensure the proper protection of this heritage. It offers considerable benefits to the States Parties. It will also more and more shape underwater archaeological work and make it a more ethical and scientifically sound domain.

The Convention and the work of its States Parties will also give a more and more strong impetus to raising awareness of the importance and beauty of underwater cultural heritage. The facilitation of its appreciation by the public will here be a main issue.

Last but not least, the Convention will also foster the investment in the building of capacity in States and in underwater archaeology as such. The rising awareness will be a driving pillar that will help stabilizing the current situation of many professionals in underwater archaeology and improve protection. It is only throughout the recognition of the submerged heritage’s real value and potential by all members of society that its effective management and protection will be achieved.

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Titanic at 100: International Icon and Underwater Cultural Heritage in International Waters

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R.M.S. Titanic is perhaps the most famous shipwreck in our current global popular culture. There are a number of reasons why this is so, including the just passed one hundredth anniversary of the ship’s launch, maiden voyage and tragic loss. The tragic loss was the principal but not the only reason why a British registered vessel in a steamship line owned by a U.S. company would attain international fame – or notoriety if examined from another perspective.

Titanic was built in Belfast, Northern Ireland by Harland & Wolff, one of the more noted British shipbuilding firms of the late nineteenth and early twentieth centuries, for transatlantic passage between Southampton, England and New York City in the United States. It was the largest and most luxurious passenger ship of its time and was reported to be “practically” unsinkable. Titanic was launched on May 31, 1911 and set sail on its maiden voyage from Southampton on April 10, 1912; 2,240 passengers and crew were on board. On April 15, 1912, after striking an iceberg, Titanic broke apart and sank to the bottom of the ocean, taking with it the lives of some 1,500 passengers and crew.

The sinking of Titanic was broadcast “live” by the new Marconi electric telegraph and reached other ships at sea and radio receivers ashore. While very different from the level or range of the twenty-first century’s immediacy of broadcast, the Titanic disaster reached a global audience through newspaper stories published within hours, not days or weeks, of the event. In some ways, Titanic was the world’s first “modern media disaster.”

For decades after it sank, Titanic remained a powerful icon. Seemingly lost forever, “beyond reach,” Titanic pulled and tugged at the western world’s consciousness. More than a thousand pieces of music were penned about the ship and its loss, numerous books and articles appeared, sermons and speeches were given, and various other forms of artistic expression, from paintings to poetry, examined this, the most terrible peacetime shipwreck of the twentieth century. But the greatest pull on the human consciousness was the ship itself, and the relics of the disaster.

An amazing array of flotsam from the wreck found its way into private and public collections, including lifejackets worn by survivors, broken pieces of ornate panelling, deck chairs, and the contents of a few pieces of luggage that floated off the ship. Canada’s Maritime Museum of the Atlantic, in Halifax, Nova Scotia, has one of the largest collections, for it was here that the ships that collected the dead and the debris were home ported. Among their “treasures” are a deck chair and a large section of panelling from the Grand Stairway. Other collections, in the United States and abroad, include those of the Titanic Historical Society, the Fall River Museum, the Independence Seaport Museum in Philadelphia, and the Ulster Folk and Transport Museum in Belfast, Ireland, to name a few. The culmination of the concept of a complete Titanic museum can be found in the recently (2012) opened Titanic Experience at the site of the ship’s construction and launch in Belfast, Northern Ireland.

It is not surprising then, to note that the ship itself, miles down in the eternal darkness of the North Atlantic, continued, as author Susan Wels points out, “to fire and torment the public’s imagination.” “The location of her sinking,” said Wels, “an imprecisely known patch of the Atlantic, vacant and menacing, some 450 miles southeast of Newfoundland – became part of the world’s geography. Unknown and unreachable, her abyssal grave and her fatal voyage obsessed dreamers and adventurers for more than seven decades.”

When the news of the wreck’s rediscovery by the joint French-U.S. team of Jean-Louis Michel and Robert Ballard reached the world in the early morning hours of September 1, 1985, the media provided, at first in brief snippets, and then in more detail, images and information from the bottom of the Atlantic. From a few simple views of the bow, the images that came back from the seabed made a distant, abstract event very real.

What has followed, in the years since the wreck of the Titanic was rediscovered? The wreck, in all its twisted, rusting splendour, has given society a temporal touchstone – a physical link to the “night to remember.” It is a time machine, as Ballard first evoked when he found her, miles down.
As the cameras passed various spots mentioned in the history books and survivor’s accounts – the crow’s nest where lookout Frederick Fleet had picked up the telephone and shouted, “Iceberg, Right Ahead!”, the boat deck, with empty lifeboat davits, the remains of the bridge, where Captain Smith was last seen, the physical reality of Titanic stripped away the years. While there has been some salvage outside of the major hull portions, most of the ship remains in its final resting place, 12,000 feet below sea level and over 350 nautical miles off the coast of Newfoundland, Canada.


The sensitive nature of the wreck led the United States Congress to pass the “RMS Titanic Memorial Act” of 1986, asking that an international agreement be reached to protect the wreck from unregulated salvage and set it aside as a marine memorial. But the act, as a statement of intent by Congress, merely asked – it did not regulate, or provide penalties should anyone defy their will. There is no international agreement in place to protect or regulate the wreck. A treaty between the U.S., the U.K., France and Canada has only been signed by the U.S. and U.K. and not implemented. Lying in international waters, closest to, but outside of Canada, the wreck is “managed” through the ongoing process of admiralty court oversight as RMS Titanic, Inc. exercises its rights as salvor in possession. Through this process, as the court is in the United States, NOAA plays a role.

NOAA’s Office of National Marine Sanctuaries is NOAA’s lead office for dealing with the wreck of RMS Titanic. The Office of National Marine Sanctuaries works closely with the Office of the General Counsel, International and the Office of Ocean Exploration and Research in NOAA as well as other U.S. government agencies such as the Department of State, the Department of Justice, the U.S. Coast Guard, and the National Park Service in carrying out the responsibilities that both Congress and the United States District Court have requested NOAA to assume. NOAA has drafted guidelines for research on the site, recognizing and recommending at the same time the annexed rules in the UNESCO Convention on the Underwater Cultural Heritage. It worked with the court to draft covenants and conditions for the recovered artifacts to maintain them as a collection available to the public and not subject to being split up and sold.

The Maritime Heritage Program in the Office of National Marine Sanctuaries, working with USS Monitor National Marine Sanctuary, carry out the Office’s Titanic responsibilities. These include coordinating NOAA’s relationship with a coalition of interests known as the Titanic Preservation Alliance, carrying out NOAA’s responsibilities to oversee and report to the District Court, with the Department of Justice, on the status and actions surrounding Titanic and some 5,000 artifacts recovered from the wreck by RMS Titanic, Inc., and participating in ongoing scientific, archaeological research on the Titanic site. I was chief scientist for the privately-funded 2010 scientific expedition to Titanic. The science team, including partners from Woods Hole Oceanographic Institute, the National Park Service, and RMS Titanic, Inc. are currently completing the final archaeological report for the expedition. The wreck was mapped in detail, for the first time documenting its entire area with high-resolution images and sonar, but nothing was disturbed or recovered.

At 100 years of age, Titanic is now eligible for consideration as a World Heritage Site. Regardless of whatever designations may come, it, like other wrecks, speaks to multiple values society places on such sites, and values that connect us all globally through our shared maritime heritage.

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Research in prehistoric sites of lakes and bogs around the Alps started more than 150 years ago. In 2004, Switzerland took the initiative to propose an international UNESCO world heritage nomination, which was successful in 2011. Six countries – Austria, France, Germany, Italy, Slovenia and Switzerland – joined forces to obtain the precious label for an invisible cultural heritage of outstanding universal value. Archaeological sites under water or in bogs are of special importance because objects made of organic material like wood, bark, plant fibres and others survive in this milieu for hundreds or thousands of years. The alpine pile-dwelling sites offer a highly precise dating possibility by using dendrochronology. All in all these sites have a high scientific potential, but run also risks of long term conservation. Beside the scientific possibilities, there are risks to consider: public access is difficult and a major challenge. New ideas are needed to keep the public interest alive.

Peri-alpine lacustrine sites form a part of the European Neolithic, Bronze and Early Iron Age: in northern Italy the first sites date back to the end of the 6th millennium BC, whereas north of the Alps, the oldest sites date from 4300 BC. The peri-alpine phenomena ended by 800 BC. Economically speaking, the settlements span from early farming to developed metal working societies. Out of 1000 sites around the Alps, 111 most characterizing sites were chosen as a serial UNESCO World Heritage in 2011. Some of these sites have not been excavated and possess a high scientific potential and a high grade of integrity. The discoveries of lacustrine sites at the Swiss Lakes of Zurich and Bienne from 1854, brought along the understanding of lacustrine sites as a source of historical knowledge. Up to that time archaeology has been mainly related with grave finds, so the settlement remains that were found were spectacular. Lacustrine sites were the first to represent the everyday life, whereas grave finds represented the world of the dead. Research was influenced by ethnographic reports from Pacific regions where pile-dwelling villages still existed in the 19th century.

UNESCO world heritage process

In 1994, the World Heritage Committee launched its Global Strategy for a Balanced, Representative and Credible World Heritage List. Its aim was to ensure that the World Heritage List reflects the world’s cultural and natural diversity of all sites of outstanding universal value. Ten years later ICOMOS presented the paper The World Heritage List: Filling the Gaps – an Action Plan for the Future. In 2004 the most represented categories were architectural properties (341), historic towns (269), religious properties (234) and archaeological properties (171). These four classes constituted then 70% of the cultural properties on the World Heritage List. Among the archaeological properties there were less than 30 prehistoric sites: 12 from the Neolithic and Bronze Age, 12 Paleolithic rock art sites and caves and five areas with Hominid finds.

In Switzerland, the first ideas for starting a world heritage project with prehistoric pile-dwelling settlements emerged in 2000. In 2004, 150 years after the discovery of the first Swiss sites, the project was presented in the assessment to establish the new Swiss tentative list. A broadly varied team of experts checked the potential of 35 Swiss proposals. In the end of 2004, the Swiss government nominated five candidates, and among them was the project Pile Dwellings. The further steps were taken in 2006–2009: the inscription of the peri-alpine pile-dwelling sites was made on the national tentative lists of France, Germany, Italy and Slovenia, and in June 2008 the foundation of the association PALAFITTES, which was the leader of the nomination process. The nomination dossier was deposited in January 2010 and the inscription on the World Heritage List was approved in June 2011. Approximately 30 institutions and 200 collaborators in six countries were involved in the nomination process.

Looking back, the project had a rather chaotic beginning. The core group was enthusiastic and dedicated, but also lacking experience. The project was launched as state organisations often do it: without sufficient external money and support. The unsaid reason behind this was the fear that a larger demand of money will kill the project before it starts – manpower is usually more available in state organisations than project money. Of course this has both positive and negative aspects.

Prehistoric lacustrine sites around the Alps. In the framework of the UNESCO world heritage candidature “Prehistoric Pile-dwellings around the Alps” about 1000 settlement sites from the Neolithic and the Bronze Age (5300–800 BC) were listed in an inventory of all sites. 111 were chosen as representative for the serial world heritage.

(Map: Swiss Coordination Group UNESCO World Heritage Pile-Dwellings Around The Alps)
The following arguments were used in the nomination process:

1. Most of the archaeological remains on the World Heritage List are “solid” visible objects: ruins of stone buildings, rock art, megalithic tombs etc. Non-visible fragile archaeological remains in sediments represent by far the largest part of the archaeological heritage worldwide. A big part of the results to understand human prehistory are coming from extremely vulnerable wetland sites.

2. Non-visible archaeological remains have *per se* a weaker position to be recognized as properties of outstanding universal value. For example: there was no property under water on the World Heritage List until 2011.

Our aim was to introduce an active archaeological heritage management of the future, including a durable protection of endangered sites under water and a sustainable knowledge transfer. We were conscious that special efforts must be given to *in situ* conservation. It was clear that we need strong “tools” to raise public awareness about the value of hidden archaeological sites and land- and seascapes, and there was a consensus that the UNESCO world heritage label will strengthen our efforts for protection of a vulnerable archaeological heritage.

For the nomination process it was important to create a good communication with politicians and decision-makers inside the involved countries. We therefore published a 150-page booklet in five languages in two volumes. The booklet, loaded with eye-catching photos, explanatory graphics and reconstruction drawings was a helpful tool in raising public interest.

The inscription on the World Heritage List was done under the criteria IV and V as given by UNESCO in the so-called Operational Guidelines, the bible for any WH nomination (IV. to be an outstanding example of a type of an architectural ensemble which illustrates significant stages in human history; V. to be an outstanding example of a traditional human settlement which is representative of a culture (or cultures), or human interaction with the environment especially when it has become vulnerable under the impact of irreversible change).

**Challenges for the future**

Independently from a successful nomination, we started to produce the smartphone application *PALAFITTES GUIDE* in the beginning of 2011. The free download on-site audio guide was ready on the moment of inscription in June 2011. In April 2013 one region – between Lake Constance in Germany/Switzerland and Lake Zurich/Switzerland – ordered a study for a better presentation of the new World Heritage. On the occasion of the final presentation, study leader Frank Schellenberg said: “If you want to do something for the touristic marketing of pile-dwelling World Heritage, you have to spend money. The existing structures will not help.» The region has already a number of attractive larger and many small museums on local to regional level. But, the structure is not highly developed and many museums show the same things. To bring the region to a state-of-the-art presentation of the UNESCO World Heritage Sites the study says that on first hand a 20 million € investment and on second hand an annual supplementary budget of 5 million € would be necessary to achieve optimal results. The study recommends giving information on three levels: local small museums, local information points and several main museums. These existing institutions should be updated and improved, whereas two completely new visitor centres should be built.

The successful inscription of archaeological sites like the pile-dwellings around the Alps has many advantages and support is given to institutions that are involved in the preservation of these sites. The label World Heritage is given life-long, if the sites are not spoiled. But, the candidature is only the first step whereas the second step – to manage and especially to transmit the values of a property to the public – is the real challenge.
Herring and common heritage

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This article is a short version of a presentation given at the 5th Baltic Sea Region Cultural Heritage Forum in September 2013. The presentation carried the title "Herring and Common Heritage", and one might ask how herring could be a part of our common heritage. The short answer is that herring is at least an important part of our shared heritage. Herring is a good example of how the fisheries history gives us some important shared experience. It is an historical experience that has influenced our understanding of coastal culture and maritime heritage.

For a Norwegian visiting the local fish markets around the Baltic Sea, it is evident that herring still connects us. You can still find Norwegian herring alongside the Baltic herring everywhere at the market, especially in good seasons. It can even be added that great herring catches in Norway are far more visible in Baltic food markets than among domestic consumers. One might say that the herring food culture is more present in everyday life in parts of the Baltic region, all though herring fisheries are by far larger in the North Sea-region. I will later provide some examples on how the fisheries, trade and food culture were more intervened in earlier historical periods.

Before we look into the history of herring in the Baltic and the North Sea, I would like to express some arguments about why fisheries history is a fascinating part of our shared maritime heritage. Fisheries history is an important part of our maritime history, and a great resource to increase our understanding of our common and diverse maritime heritage.

Fishing huts like the ones that were once common in the Finnish archipelago. They were used during the fishing season.
(Photo: T.H. Järvi, National Board of Antiquities)
Fisheries are, together with farming, the very basis for the first settlements along our coastlines. Fisheries are basically about gathering food and when it comes to food productions, fisheries have always been the most unpredictable kind of food gathering. Of course the outcome from farming can vary significantly from one year to another due to unfortunate weather conditions or other disturbances, as it can in hunting for birds and game as well. However, in the fisheries, there might both be variations in where the species seek to shore and also enormous fluctuations when it comes to the quantity.

The pelagic fisheries – meaning the larger stocks of fish in the higher water levels represent an extreme version of these fluctuations. Among these stocks you find mackerel, capelin, and sprats and, of course, herring, which has been the far most important species throughout history.

When looking at the herring fisheries, it is clear that the natural fluctuations could vary from an overload far overreaching the fishing capacity, to catches lesser than needed for cooking a fish meal for the fisherman’s family. In earlier days, you would not have many hints on which way the pendulum went before the season started. Those who go to the fishing grounds inspired by last year’s catch, may find themselves ashore due to harsh weather, or they reach the spawning grounds in good weather, perhaps in areas far out of reach.

The herring fisheries have been a major part of our shared experience in the Baltic Sea and the North Sea region, although these fisheries have varied a lot from region to region and over time, when talking about historic importance.

Of course in general we are talking about two main species - the Atlantic Scandinavian Herring and the Baltic herring.

It is the large herring fisheries that have connected us through trade, market places and exchanging methods. From a western Nordic perspective it is natural to begin with the first great herring fisheries in the south east Skagerrak, Bohuslän in Sweden. At the time it was Norwegian, but in our context it was primarily an international fishery, where merchants from different countries in the region participated. This became the basis for the founding of the city Marstrand which flourished during the 12th century, and where the herring fisheries quantitatively had their peak in the 16th century, when the annual catches could have been as big as 3 million barrels.

The great herring fisheries at Skåne were of even bigger importance, also in late medieval times. From these fisheries, the Swedish temporary annalistic Olaus Magnus claimed that the herring was brought to the coast in such great abundance that the nets and seines were pulled down by the weight. The fish were even standing so tight, he writes, that you could put a battle axe in the middle of the herring shoal, and it would be still standing there like a pole.

It is due to this kind of herring adventure that some historians have outlined the herring fisheries as the most commercially important fisheries in the world. The growing European economy of the late middle ages needed a steady supply of quality food, to feed the increasing population, as most Western European cities were not able to produce enough food. In this situation, the Baltic area became a cross-roads for commerce between Eastern and Western Europe, and it can all be attributed to the “silver of the sea”, the common herring.

The herring fisheries became an important key for the long lasting exchange of salted herring, grain hemp, timber and many other products. The herring went to the east and south. The salt went to the north and west, and rye and hemp went westwards. The Hanseatic trade system was initially the overall facilitator of this, but the position was later challenged by both other merchants, and the development in other markets and on fishing grounds. The Dutch development had for some period a defining effect on the whole herring trade and fisheries.
One could say that the development of Dutch cities was tightly related to the herring fisheries, and they soon had a direct impact on the fisheries as well. When the Dutch expanded out on the North Sea fishing grounds with large vessels, the herring bus, equipped with crew, fishing gear and salt, the fisheries were industrialized in ways never seen before. Now the fisheries were made more efficient by cleaning and salting the fish on board, so that they could continue fishing throughout the season. It is estimated that a maximum of around 800 herring buses with a total crew of 12,000 men participated in these fisheries from their beginning in the 16th century.

The Dutch inventions did not only have an impact on the market situation in the North Sea and in the Baltic Sea, it also inspired others to try to copy some of the organization and techniques. For example, the first Royal institute for fisheries in Norway was established in 1804, based on Dutch connections and Dutch skills.

The 19th and 20th century represented a further growth in both in the herring trade and the herring fisheries. While the biggest fisheries in the Nordic countries in the late 18th century had taken place in Skåne and Bohuslän, like in the middle ages, we now got an explosive expansion in the herring fisheries in Norway from 1808 and onwards. The market was much the same; the Baltic region received almost all of the 400,000 – 600,000 barrels of herring exported every year. The most important markets were Sweden, the Baltic countries, Russia and Germany and later Denmark.

The herring fisheries also expanded geographically during this period, as herring fisheries in Icelandic waters became significant in the latter part of the century, and also that the North Norwegian herring fisheries had an enormous growth after 1870. These were fat herring fisheries, while in the western and southern Norway, the biggest fisheries had been going after the spring spawning herring. New herring products were also developed as a result of the industrialized production of canned herring, and the first big factories for production of fish meal being founded in the latter part of this period.
Many herring societies

We should not forget that besides this story of trade routes, economic development and quantity, many coastal societies were coping with herring and the modernization process in different ways.

Herring fisheries were not only done on a large scale and based on export. Spread over the whole region, the coastal people were fishing herring for personal consumption or for the local market. It was a resource to which a lot of people had easy access to. It did not require big investments to participate, but cooperation was needed in case of success.

It was common over the region that herring was caught in shallow waters by using traps and seines, and further from the shore by using nets. There were many similarities between the various herring fisheries throughout the region, but also numerous local adaptations and techniques.

In Poland, some fishermen are still using the traditional method of fishing herring with nets attached to wooden poles. (Photo: Robert Domżał, Polish Maritime Museum).

Many herring societies

The economic impact of herring fishing created many small towns like this one, Bovallsstrand in Bohuslän, Sweden. (Photo: Dan Samuelsson 1924, Archive of Bohuslän’s museum, Sweden).

A herring culture?

As the herring, both the Atlanto Scandinavian herring and the Baltic herring, fluctuates when it comes to the scale and the locations where the herring seeks to shore, fishing societies involved in these fisheries had to be prepared to make rapid adjustments from one year to another.

Some would say that herring has had a significant impact on the mentality of those regions where its spawning grounds have been; that because of its enormous volume and short season, herring has shaped the society through the generations, by making it quickly adaptable to new situations and, on a short notice, mobilizing the needed workforce for handling and preserving the fish before it got too old and smelly.

Although it might go too far to talk about a herring mentality, it is obvious that the herring fisheries and trade have been a dynamic and unpredictable kind of fisheries, that have involved a large part of the population in many different societies, due to their size and fluctuations. These kinds of fisheries with the large amount of fish landed in a short period of time, gave at least an obvious incentive on how to be creative when preserving and trading the fish.

It is fascinating to see the flexibility in the fishing communities. The success of the fisheries was not only a matter of fishing skills and good luck, it was also dependent on the ability to mobilize a larger workforce to process the herring. This is where the bottle neck often existed. Just imagine gutting and cleaning thousands and thousands of fatty herrings before they got sour or rotten. The processing was mostly based on drying, salting and smoking the herring. In addition, you have the important tradition of fermented herring, with the Swedish sörströmming being the most known, but maybe not the most appreciated.
It is easy to understand that herring fisheries and herring trade have had a great impact on local food traditions, though the status of herring has varied through the decades and from product to product. There were exclusive courses based on high quality or expensive preserving methods, and there was cheap and simple herring available for every household, no matter how poor.

Laying herring in barrels is skilled work: the fish must be packed tight and the work must be done fast. (Photo: A. B. Wilse, Norwegian Fisheries Museum).

Herring with potato or herring with bread are witnessed as everyday meals for the commons all over the region. For those living in the fishing villages with only little grain and animal production, herring could be set on the table three times a day or more. One can understand that people got a bit fed up. In my region in western Norway, it was even claimed that the large consumption of herring explained why the people here were both physically and mentally slow. However for some reason, we prefer the other story about how the herring fisheries have made us quick and innovative.

In the 21st century, the herring history of the Baltic Sea and the North Sea became strongly intervened by the economic and political development in the region: industrialization of the fisheries, new political borders and new challenges on the market. For the herring fisheries, the interwar period represented the beginning of the large international herring fleet in the North Sea and outside Iceland. A large part of the catches were handled by the growing fish meal and oil factories.

The herring fisheries outside Iceland represented a big and new kind of meeting place in the herring history. Countries that previously had not had any significant fishing fleet outside its nearby waters, were now supporting companies, both private and state owned, for fishing outside Iceland. The fishing ground became an international meeting place, and also an arena for competition. Most of the countries in the North Sea and Baltic Sea region were involved.
Modern infrastructure and faster trade routes from the beginning of the 20th century enabled trade in iced herring, which was transported in boxes like these. Making barrels and boxes was a significant part of the herring trade. (Photo: A. B. Wilse, Norwegian Fisheries Museum).

K. Tüür has given an example of how international the fisheries outside Iceland were in the 1930s. The case was an Estonian expedition to Iceland. The company owners had placed capital there from smuggling vodka between Finland and Estonia, and chose now to invest in the herring fisheries. The boat was bought from UK, while the fishing gear was imported from Norway. The crew was also international, with a Finnish and Estonian crew and a Norwegian boss for the purse seine.

The international character of this expedition even created an interesting question when the company arrived to Tallinn with its first shipload of herring. Was this Estonian herring? It was obviously caught from international waters, as this was long before the Icelanders claimed expanded territorial rights on the sea. However, it was hauled on board of an Estonian vessel, and therefore it should be considered to be Estonian herring, even though the seine was Norwegian made. What became crucial was that the herring had been put into Norwegian made barrels. Therefore, the custom in Tallinn concluded that the herring was to be considered as imported goods. Today, this case illustrates the international character of the herring fisheries and trade.

It is easy to find other examples of how the herring fisheries outside Iceland became international meeting places. Finland, for example, had a significant fleet outside Iceland, both before and after WWII. The Soviet Union managed to build a modern large scale fleet in the post war years. Similar development in the herring fisheries are found, for example, in Poland and in the two German states.
The herring fisheries reached their peak in the 1950s. It was a welcomed contribution to the world’s food supply after the war, even though a large amount of the stock ended up as fish meal or oil for the food industry and was not directly used for human consumption. After its peak, the herring fisheries of both Atlanto Scandinavian herring and Baltic herring declined, partly due to overfishing. As a result, a new managing regime evolved, ending with extended national governance of marine resources and the development of a scientifically based international and national management.

A shipload of herring onboard a Polish fishing vessel. After the Second World War more nations than ever before participated in herring fishing in the Baltic and North Seas. (Photo: J. Jasiński, Archive of the Polish Maritime Museum).

A coastguard vessel oversees herring fishing. It is up to national coast guards to implement fishing regulations. (Photo: Norwegian Fisheries Museum).

This, together with the strict structure of the fleet and the general technical modernization of the society, has sort of separated the society from herring. So, even though at least some important herring stocks have recovered, the herring fisheries with all their implications are less connected to the society.

Having fun handling herring during a diplomatic visit of herring fisheries in Norway in the 1950s. (Photo: The Norwegian Coastal and Fisheries Department).

However, herring is still a living part of our societies as food, and we have a big responsibility to take care of our herring history with the material and immaterial maritime heritage related to herring.

Today, it is perhaps not only museums and historians that are keeping up the interest for this part of our history. The history and food traditions are partly kept alive in people’s minds, for example, through the herring festivals in our region. Herring is celebrated throughout both the Baltic and Nordic region.

Most of the festivals are organised to highlight the local herring-related history. In Helsinki, they are celebrating the herring market, and in Siglufjörður on Iceland, they have a big festival to mark herring as the original founding base of the society, as you would find in Norwegian herring cities. One of the biggest herring festivals takes place in Kaliningrad -the herring day. Many other festivals take place in all parts of the Baltic and Nordic regions.

Although history is the basis for the festivals, it is mostly the herring as a tasty food that is celebrated. It is traditional courses and herring as finger food and snacks that are highlighted, and the historical background is not necessarily communicated. Still, the interest for herring as food and the general interest for traditional cookery is a good starting point for further highlighting the herring food culture across the region.
So in this case, tourism is contributing to keep up the historical memory of some parts of our fisheries history and the herring heritage. It is my hope that an integration of fisheries history as a natural part of maritime history and the stories told at maritime museums, will lead to broaden our historical perspectives. This is needed if we wish to manage protecting what is left of material and non-material parts of fisheries history in the region, and then particularly, what is related to our shared herring history.
Water Tourism Development in the Eastern Part of the Gulf of Finland

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This paper provides a brief overview of how sailing and boating possibilities have changed during the last twenty years in the Gulf of Finland, and mainly in eastern part of it. What is the situation today and how sailors see the sailing possibilities in the eastern part of the Gulf of Finland.

Some cases which have had a positive influence to water tourism development:
• Open border between Estonia and Finland
• The Saimaa channel
• The history’s first squadron to Ladoga
• 13 squadrons from Kotka to Saint Petersburg
• New harbours: Saint Petersburg, Kronstadt, Kotka, Vergi, Tallinn, Narva-Jõesuu, Narva
• A new border control point has been opened to Kronstadt, Russian inland waters are now mostly open
• Small harbours were opened in 2013 between Saint Petersburg and Vyborg
• Co-operation water tourism network between Estonia-Finland-Russia is working.

In the last ten-fifteen years we have carried out many international water tourism development cooperation projects between Finland, Estonia and Russia. Usually the sailors are not aware about these projects, they only witness that sailing possibilities have increased in many ways in the last years.

Some cases for example:
• Water road idea to Lake Peipus
• Opening Russian inland water roads
• Small boat harbours opening between Vyborg and Saint Petersburg
• Custom point and harbour in Kronstadt
• A 3-year voluntary sea rescue project between Finland, Russia and Estonia called “ResCOp”.

After getting a glimpse into what the situation is today, we need to take a look into the mirror in every country and ask: do we want water tourists in our area? Do we have open seas for sailing in our water area?

Depending on the answers, we can find challenges for the future projects: what kind of targets need to be taken, and what can be done to get the expected results?

Future challenges

The situation in the eastern part of Gulf of Finland today is that everyone, regardless of nationality, can sail practically everywhere in the Finnish and Estonian waters. On the Russian side, a part of the Gulf of Finland is now open for sailing: only the harbours between Vyborg and Saint Petersburg.

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The first records of the summer guests and arranged seabathing on the eastern coasts of the Baltic Sea date back to the end of the 18th century. Step by step, the local elite took over this new aristocratic elitist fashion and the seaside towns and coastal areas in the Baltic Sea provinces of the Russian Empire became popular summer holiday and bathing destinations already during the first half of the 19th century. In addition, the establishment and the development of seaside resorts were boosted by the therapeutic nature of the climate, seawater and sea mud. The repute of the curative sea-mud in Estonia was, at the beginning, solely a feature of folk medicine, but eventually transferred into scientific medicine. The first generation of the Estonian seaside resorts includes all historical coastal towns – Tallinn (Reval)/Kadriorg (1813), Haapsalu (1825), Pärnu (1838) and Kuressaare (Arensburg, 1840). Following the example of other resorts by the Baltic Sea, Pärnu tried to peg modern therapeutic and bathing traditions to its status as an established sea town (the first written documents about (Old) Pärnu date back to 1251). The development of the resort in Pärnu can be divided into four historically contingent periods. The first period included two sub-phases. The actions and decisions taken especially during the second sub-phase of the period, demonstrate an active local pioneering approach to the transformation process through diversification of the entrepreneurial environment in the town. Pärnu was then hurled into the era of change and innovation as this era turned the closed fortress town into an open seaside resort, ‘bathing in greenery’ and characterised by numerous parks, shady boulevards and elegant architecture.

The changing periods, socio-political contexts and path-dependent/path-creative perspectives of the development of Pärnu as a tourist destination. (Compiled by T. Kask, see also Saarinen & Kask, 2008).

The feeling. (Photo: Veijo Parviainen).
The foundation of the seaside resort

The resort in Pärnu was founded in 1838, when the first bathing establishment was opened by the sea. The rapidly established bathing facilities and the organisation of the sea bathing remained for the following decades a relatively local phenomenon. Due to the economic instability, the poor road connections, the inadequate reputation as well as the lack of experience in the management of the bathing activities (“learning by doing”), the visitor count at the resort remained quite modest until the end of the 1880s. During one season (from May to September) a maximum of around 150–200 holidaymakers, mainly from Moscow and St.Petersburg but also from Estonia and Livonia, came to Pärnu. The last decades of the 19th century founded the resort and the industry related to it as the new cornerstones of local development.

Imperial health resort – Cinderella of the Baltic Sea!

The intensive development of the resort had started in the 1890s and culminated in a new quality in the first decades of the 20th century. In 1890, a new, modern bathing facility was opened and Pärnu was registered on the list of the Russian imperial resorts. The first official recognition intensified the development of the resort even further. The treatments were diverse, modern and met the highest requirements. By the turn of the century the suburbs of Pärnu had been added to an attractive modern resort area with parks, boulevards, villas and various leisure facilities. The most successful season of the pre-WWI period was the year 1908, when Pärnu was visited by an estimated 2,500 summer guests.

The period between 1889 and 1915 was the first deliberate, systematic and persistent period in getting recognition, acknowledgement and developing service productions and customer friendly environment in Pärnu as a health resort town. The ambitious goal set by the town government to develop Pärnu into a European health resort with excellent ground maintenance and service culture was achieved. Before WWI the health treatment-oriented Pärnu could not compete with other leisure resorts such as „Beach of Riga” (Jūrmala, Latvia) and Narva-Jõesuu (Northeastern Estonia). In spite of that Pärnu had a very high repute as a coastal resort with modern treatment facilities, attractive ambience and hospitable community.

The prime resort of the Republic of Estonia.

The initial years of the first period of independence were difficult and uncertain for the resort, but in spite of this, summer vacationing experienced rapid growth. In the 1920s, the modern fashion of sunbathing, recreational and social beach activities also reached Estonia and became a part of our resort culture. The resort, once again, turned into one of the most important aspects in the development of the expansion and image of Pärnu. The first so-called “paradise” or “public unisex beach” was opened in Pärnu in 1924.

During the 1930s the new age of functionalism in the resort architecture was entering the pre-WWI resort milieu. The main principles of functionalism – the abundance of light, air and sunshine and promotion of healthy lifestyles – matched the modern trends in beach culture. Most of all the new bathing architecture had impact on Pärnu as it became one of the most popular vacation and health resorts in Estonia – The Summer Capital of Estonia.
In conclusion, the image, sense and spirit of the tourism destinations created by the resort heritage are the keystones and the basic guarantees of a sustainable development. The formation and transformation process of the Estonia’s seaside resorts in the 19th century influenced crucially our coastal and maritime culture. It was the golden age of the genesis of the traditions, practices and development trends of the Estonian tourism. In the 20th century resorts turned into the most competitive and sustainable core destinations, even the trend-setters have had a major impact on the tourism development on a local, regional and national level.

The long-term sustainability of the resort development in Pärnu relies heavily on how well the local community is able to use the local resources – economic, cultural and social capitals while adapting flexibly to the changes. Therefore, creative local governance and deep-rooted hospitality practices can be considered as important factors in securing sustainability, which carries the message of the high-value historic milieu due to the harmonious and well-balanced co-existence of cultural heritage and modern tourism trends.

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Changes in Coastal Landscape

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People who live in the Baltic Sea region have had the good fortune of living in beautiful countries with extensive cultural heritage. The concentration of such heritage over the course of the millenia has meant that Europe has been the most powerful promoter of creative intellect in the world. Cultural heritage is a value with potential that serves as a resource for ensuring sustainable development and quality of life in a society that is subject to uninterrupted developmental processes. Concerns about the cultural and historical values of the coastal area of the Baltic Sea are important not just in the context of culture, which is an aspect of the quality of life for human beings, but also in terms of the resolution of important and international problems in the area of economic competition.

Rapid changes in the present day mean massive change to landscapes, thus endangering values that have been accumulated over the centuries. This happens because of rationalism, the global economy and new priorities in life. Rapid economic benefits, simplified understandings and unified standards may mean that Europe will lose its unique landscape – the special value which makes it possible to identify Europe with the word “culture.” Cultural heritage and landscapes are the greatest value in Latvia and, most certainly, in the entire European continent in establishing and ensuring human quality of life. The cultural heritage and landscape must be understood in a way which ensures that they provide an effective investment in that quality of life.

The world is changing ever more rapidly, and changes are occurring in landscapes for the following reasons:

- Economic globalisation (EU regulations such as orders to destroy fishing ships so as to gain short-term economic benefits);
- Management types, methods and technologies, unification, alien cultures and identities, the loss of specifics, diversity, and endangerment of that which is different;
- The number of employed residents in populated areas along the coastline, with activities of a seasonal nature (one problem relates to abandoned historical buildings);
- Energy efficiency steps that are solutions which are cheap and do not satisfy aesthetic principles (windows and doors);
- Climate change (floods, storms, snow).

The essential part of preserving our cultural and environmental heritage is based on general principles of ethics – preserving that which is valuable, placing the human quality of life at the centre of the issue, permitting and facilitating development, and seeing each new high-quality object as a potential piece of heritage for the society of the future. The most important element of this principle is responsibility – thoughtful activities aimed at long-term development, with the concept of responsibility focused more on the ability to answer questions posed by future members of society. In other words, we must try to do that which our successors will accept or need. This ethical philosophy is at the foundation of any type of progressive development.

The preservation of cultural heritage must be seen not as a burden or fee for history, but instead as a challenge and opportunity to use cultural heritage and its careful preservation as a way of developing an environment which, under circumstances of competition, can win, gain an advantage, and ensure more influential prerequisites, conditions and steps needed to establish the quality of life of local residents. The cultural heritage is an element of personal identity in the following senses:

- A carrier of collective memories;
- A source of creativity;
- An economic value;
- A means for creating employment;
- A successful instrument to create international relations and integration;
- A resource that can be used in practical ways;
- An instrument related to international competition and recognisability.

There is a need for new techniques that are aimed at creating and discovering new added values. Contemporary art and architecture in a landscape which respects and emphasises traditional values can become a key to preserving values which help to strengthen the relevant philosophy. Understanding of cultural heritage changes over the course of time. Things which were once seen as degrading in terms of the environment are often seen as being of value today. Cultural heritage and the landscape are a dialogue! We cannot conserve the landscape so that it never changes. The aim must be focused on continual and controlled changes, with the philosophy being based on preserving values as a resource for long-term development and an opportunity to create new and high-quality development. It must create added value, and the new contribution must not be of a lower level of quality than the existing one, nor must it dominate the specific environment. Latvia has set an example in terms of developing this approach. Guidelines related to the preservation of the cultural and historical landscape of the Baltic Sea coastline are being developed. A balanced, considered and responsible approach toward the development of the coastline allows people not just in Latvia, but also throughout the Baltic region to enjoy a high-quality living space for individuals, as well as a stable and universal understanding and system of values.

When it comes to the development of any location, it is important to determine the location’s values, as well as those things which are undesirable or disturbing there, also looking at new things that are needed. We must remember that environmental values can only be determined after all-encompassing studies, research and analysis, after which there must be extensive consultations and discussions. The landscape is not frozen. It constantly changes in reaction to human ambitions, mistakes, and sensible activities which the environment requires. There must be a bridge between new creative activities and old historical values! Here are some principles for high-quality development:

- At the centre of the process are people and their quality of life. There must be a long-term view with responsibility for the future;
- There must be identification and research aimed at obtaining extensive knowledge about the specific location – determining values and understanding the location in the context of the broader environment;
- There must be dialogue among various professional disciplines and interest groups so as to come up with common understandings;
- There must be a bridge between traditional, historical and contemporary art – architecture, design and the visual arts;
- Changes must be managed and controlled in qualitative terms – not so much with limiting instruments, but more with challenging and recommending advice and successful examples together with explanatory analysis for “actors” at all levels;
- We must remember that a high-quality landscape is also of economic value, providing society with economic benefits in the long term.
Coastlight.net – a Global Service to present Maritime Heritage?

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In 2009, the Norwegian Coastal Administration presented a national plan for the preservation of different aspects of our maritime infrastructure. The plan described a significant number of objects to be preserved, but it went one step further. It also described five different geographical areas of the Norwegian coast that they called “Representative areas”. In these five geographical areas the goal was not to focus on singular objects, but to try to communicate the complex and interdependent relation between different aids to navigation, and to show both the historical development of the different aspects of maritime infrastructure as well as presenting how the different objects and installations function together today. However, one difficult question remained: How could this be done?

The Norwegian Lighthouse Museum on the southern tip of Norway took the challenge and developed the pilot project “Maritime cultural landscape – Lindesnes”. 16 documentary films were produced and linked to their geographical location through geo-tagging. A technological platform for net-based distribution to smart phones, tablets and PCs was developed, based on the use of digital maps and geo-tagged documentary films, photos and text. In May 2013, the net based service, kystreise.no, was opened by the Minister for Fisheries and Coastal affairs, Lisbeth Berg-Hansen.

Now, the kystreise.no project is developing into a nationwide service covering the Norwegian coast. Five museums, from the North Cape to the southern tip of Norway are producing documentary films and other content from their geographical areas, and 25 more museums in the Network for Fisheries and Coastal Culture are starting to work on their stories from their geographical areas.

In June 2013, kystreise.no was presented at the IALA (International Association for Aids to Navigation and Lighthouse Authorities) conference “Preservation of Lighthouse Heritage” in Athens, Greece. The response was very positive, and one of the concluding action points of the conference was: the IALA Heritage Working group should investigate the possibility of extending the Norwegian Kystreise.no initiative.

The response in Athens led us to rethink our goals for an English language version of kystreise.no. Initially, we had planned to just translate all content within kystreise.no into English, but after Athens we understood that we needed an English language service with a meaningful name all
The geographical extension of the Coastlight.net service is now developing rapidly. France will be the first with their lighthouse museum, Musée des Phares et Balises, located together with the lighthouse Le Créac'h on the island of Ouessant in Bretagne. More French lighthouses will follow their example. The Nordic Council of Ministers has asked us to develop plans for the Skagerrak and Kattegat region of Sweden, Denmark and Norway. The Coastlight.net was also presented at the "5th Baltic Sea Region Cultural Heritage Forum" in Tallinn in September 2013 and led to meetings in Gdansk with the Baltic sea EU initiative "Martabal". Coastlight.net was also presented at the IALA meeting in Paris in October 2013, where representatives from China and Ireland expressed interest in looking into possible cooperation through the Coastlight.net service.

Our aim now is to establish an international network that can contribute to making Coastlight.net a major platform for communicating and promoting our lighthouse- and maritime history together with the history of fishing and seafood as a common global heritage. We also want to develop Coastlight.net as an international service of high quality information. In order to achieve this, we hope for the active cooperation from maritime museums, regional organizations and the global IALA association.

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6 Other interested countries, organisations and lighthouses are asked to contact the Coastlight.net service at kystreise@gmail.com.
Wherever possible, the Society also restores neglected ancillary buildings and the historical equipment they house.

This activity requires substantial financial means which the Society obtains by running the tourist and educational side of these four lighthouses and thus benefits financially from this work. Part of the profit obtained from the visits of some 250 thousand tourists each year is put aside to help cover the costs of renovation and conservation works.

The most important works carried out in conjunction with the Maritime Office and financed in whole by the Society included:

− major renovation of the lighthouse towers and the interiors of the lighthouses at Rozewie, Hel, Krynica Morska and Stilo.
− renovation of an old generator house of the Rozewie lighthouse.

The generator house was built in 1910 and it contained two locomotives, which produced steam for fog horns and electricity by means of generators of direct current used for charging 40 batteries which in turn lit the lighthouse lamp. All this equipment survived the WWII’s destruction, but it was not needed any longer and therefore the generating house slowly deteriorated. On the Society’s initiative and financial support, the building has received a complete facelift and it has been substantially modernized, so that it could be safely opened to the public and thus with its early 20th century equipment, has become yet another major tourist attraction.

Renovation of a further ancillary building at Rozewie, namely the bakery and the fish smokehouse, has also been carried out. Previously, the lighthouse keepers were almost self-sufficient as far as their food was concerned. They had fish which they smoked and bread which they baked. They had horses, cows, sheep and goats. This has changed after 1945. They stopped being part-time fishermen and part-time farmers. Thus the ancillary buildings went in decay. The Society has decided to save those buildings from total destruction. To begin with, the bakery and fish smokehouse has been fully renovated and made accessible to visitors. In this building the Society has arranged a display of historical household equipment used by lighthouse keeper’s families in former times.

One of the very demanding projects of the Society, in the field of preserving the maritime heritage, was the renovation of the former lighthouse keeper’s barn at Rozewie. The idea was to create a place where the tourist could meet artists linked mainly with the region – the sea-painters, musicians, photographers, sculptors and others, and experience their works. For this purpose we hired young but experienced architects who have done a remarkable job with transforming the former barn house into a modern, small exhibition hall, at the same time the historical structure of the barn.
The most important task which the Society has recently taken up, as far as saving the buildings of maritime heritage is concerned, is connected with a neglected lighthouse, also at Rozewie, built in 1875 and put out of operation in 1910. Our intention is to reconstruct the lighthouse to its former shape and beauty, installing on top of it a lantern house which was destroyed during the war. In the future our aim will be to build an outside lift which will enable all incapacitated tourists to reach the top of the lighthouse and admire the beautiful scenery.

This brief resume of the activities undertaken and carried out by the Society of Friends of the Maritime Museum with the aim to preserve the maritime heritage would be incomplete if I did not mention briefly a project in the pipe line.

Near the lighthouse Stilo, there is a 19th century machine house of the lighthouse. None of the equipment of this building exists anymore, but the building itself has some historical value and therefore we have decided to carry out conservation works and adapt the interior for educational purposes.

Mindful of the need to promote our maritime heritage, we attach great importance to the promotion of buildings and objects of maritime heritage and therefore in many ways we encourage people to visit them. The main tool to promote our preserved maritime heritage is the “Bliza project” introduced in 2006 – /bliza – this word means “a warning light on the sea shore” and “lighthouse” is a secondary meaning/.

The idea of the “Bliza” is that tourists visiting lighthouses can win three types of badges, which are linked with certain privileges:

a) a bronze badge is won by visiting 5 Polish lighthouses,

b) a silver badge is won by visiting all 13 Polish lighthouses,

c) the gold badge can be won by the holder of the silver badge who, in addition, has visited 3 foreign lighthouses.

The idea of the “Bliza” badges has been received very favorably, as is testified by the large numbers of badges already awarded. Up to now, 3,176 “Bliza” badges have been awarded – and namely 2,205 bronze badges, 832 silver badges and 139 golden ones. We reckon that this initiative has increased the number of visitors to lighthouses by 10–15 per cent.

We promote our maritime heritage also by other means:

a) we have published booklets about our lighthouses,

b) we organized a photographic competition for the best photographs of Polish lighthouses and then published a calendar with these photos,

c) we financially support international plain air workshops for marine artists, and afterwards put the paintings produced there on exhibitions in our lighthouses – one more attraction for tourists.

I would like to express the hope that the plans of the Society as far as preserving the maritime heritage is concerned – will, in the not too distant future, come to fruition.

Heritage for a Museum or to be Preserved in situ

Development of Tools and Techniques to Survey, Assess, Stabilise, Monitor and Preserve Underwater Archaeological Sites: SASMAP

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What is SASMAP?

Development of Tools and Techniques to Survey, Assess, Stabilise, Monitor and Preserve Underwater Archaeological Sites (SASMAP) is an EC funded project, with the purpose to develop new technologies and best practices in order to locate, assess and manage Europe’s underwater cultural heritage in a more effective way than is possible today. SASMAP takes a holistic- and process-based approach to investigate underwater environments and the archaeological sites contained therein. This is necessary regardless of whether or not investigations are research driven or in connection with sub-sea development. Investigations of underwater heritage that are associated with subsea developments in Europe often require pre-disturbance studies to comply with the Treaty of Valletta (1992).

Cost effective methods to locate and assess the dimensions of archaeological sites both on and beneath the seabed are essential. The presence and extent of potential threats to archaeology must also be determined. Threats may arise from the natural physical environment including strong currents, manmade hazards such as dredging, or construction work, fishing, installation of pipe/cable lines and development of recreation centres. The stability of the site and the state of preservation of the artefacts present must also be assessed. The various assessments provide information on how best to approach or manage a site. If the physical and bio-/geochemical environments are unstable or pose a threat to the site, the opportunities for stabilising it in situ must be determined. The options for monitoring the continued integrity of the site must be identified. If none exist, it needs to be determined whether areas can be identified that need to be excavated, or sampled non-destructively, before information is lost.

The results and products of the project fulfilled the scientific requirements of the call for proposals ENV. 2012.6.2-6. Development of advanced technologies and tools for mapping, diagnosing, excavating and securing underwater and coastal archaeological sites.

It is hoped that SASMAP will benefit the management of underwater cultural heritage in Europe and in the rest of the world by providing valuable tools to plan the preservation of offshore archaeological sites and their contents in accordance with both the Treaty of Valletta (1992) and research driven investigations. At the time of writing the project is half way through, (2012 – 2015) and more detailed results are available from the project homepage www.sasmap.eu. This article serves mainly as a general introduction to the project.

Why SASMAP?

The need for SASMAP is based on the results from previous and current EC initiatives, the networks resulting from these projects and on-going research at the consortium’s institutions. The

* Prepared on behalf of the SASMAP consortium by David Gregory.
proposed pan-European consortium includes partners who have been involved in previously funded and successfully completed projects related to underwater cultural heritage, namely The MoSS Project (http://www.mossproject.com/), MACHU (http://www.machuproject.eu/), BACPOLES (no existing website) and Wreck Protect (http://wreckprotect.eu). In addition, partners have also worked in The Baltic Gas Project (http://balticgas.au.dk/) and The Balance Project (http://www.balance-eu.org/) reflecting the interdisciplinary nature of the consortium. It also contains partners from the networking opportunities provided by the COST Actions IEO601 Wood Science for Conservation of Cultural Heritage (WoodCulHr) and TDD092 SPLASHCOST concerning submerged prehistoric landscapes. Many of these projects are directly related to the current ethos within maritime archaeology and conservation, namely to preserve underwater cultural heritage in situ, that is to say where it lies on or in the seabed. Within Europe this has been politically galvanised by the Valetta treaty (1992) and internationally by UNESCO’s Convention for the Protection of the Underwater Cultural Heritage (2001). Both these treaties advocate that, as a first option, the underwater cultural heritage should be protected in situ and, where possible, non-intrusive methods to document and study these sites in situ should be used. This is understandable in terms of the underwater cultural heritage resource. UNESCO currently estimates that, “over 3 million wrecks are spread across ocean floors around the planet” (http://www.unesco.org/en/the-underwater-cultural-heritage/underwater-cultural-heritage/wrecks/). This figure does not include the numerous submerged landscapes (and archaeological sites therein), found around Europe as a result of postglacial sea level change.

The North Sea, adjacent to the Netherlands, is effectively one large submerged prehistoric landscape consisting of settlements dating back to the Pleistocene. It is financially prohibitive in either research- or development lead investigations to excavate, conserve and curate the many finds. In Danish territorial waters alone, it is estimated that there are 20,000 submerged settlement sites lying around the present day coastline and out to a water depth of 30 – 40 metres. The recently completed EU supported project WreckProtect (http://www.wreckprotect.eu/) carried out a cost benefit analysis for the costs of excavation, conservation and curation versus in situ preservation. A single large wooden wreck, such as the Mary Rose in the UK, has to date cost ca. 80 million Euros to raise, conserve and exhibit, whereas the physical in situ preservation of a similar sized wreck in Sweden cost around 0.07 million Euros.

Even though at first glance it appears to be several orders of magnitude more economical to preserve an archaeological site in situ, efficient and well informed management requires significant investment of resources to continually monitor and safeguard these sites. SASMAP will develop and assess tools, techniques and methods in order to develop best practice for the cost effective and successful investigation and management of underwater cultural heritage

The SASMAP Concept

Within SASMAP a holistic approach is taken to locating, assessing, monitoring and safeguarding underwater cultural heritage. This involves developing and utilising tools and technologies to allow “down-scaling” from the large scale regional level, moving on to the local site level and finally to the individual components of a site.

Results obtained from the down-scaling approach at the proposed study areas will show the effectiveness of such an approach for locating and detailed mapping of archaeological sites and their preservation potential. The end results of this approach will be used to develop a plan for assessing archaeological sites in European waters. From a management point of view this is an up-scaling approach to planning (bottom up). All information and experiences obtained during the course of the project will be utilised to enhance and develop existing legislation and best practice for mapping and preserving Europe’s underwater and coastal heritage.

The SASMAP Consortium

SASMAP brings together a consortium of seven research institutions and four Small Medium Enterprises (SMEs) from seven European countries. The partners comprise an interdisciplinary group with the SMEs having expertise in the development and production of state of the art marine geophysical instruments, equipment for measuring bio-geochemical parameters in the marine environment, protection of sub-sea installations (pipelines, cables) and hand held diving tools. Institutional partners encompass a synergistic group of researchers in marine archaeology and conservation, in situ preservation, wood degradation, marine geochemistry and marine geophysics working in museums, universities and governmental institutions with relevant know-how, facilities and resources to realise SASMAP.

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<tr>
<th>Participant no.</th>
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<tr>
<td>1 (Coordinator)</td>
<td>The National Museum of Denmark (NM)</td>
<td>Denmark</td>
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<td>2</td>
<td>Innomar (IMAR)</td>
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<td>Seabed Scour Control Systems (SSCS)</td>
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The partners of the SASMAP consortium.

RESEARCH & INNOVATION WITHIN SASMAP

SASMAP has multiple scientific objectives that all have as their aim to develop a structured and optimized approach to safeguarding underwater cultural heritage. The objectives are divided up into the following Work Packages (WPs):

1. A Geological model for regional evaluation of probability of locating archaeological sites and their preservation potential (WP1).

Marine geological investigations are essential to develop a model describing the palaeogeographical and depositional environments in the selected study areas. GEUS has substantial experience in investigating the postglacial geological development of the Baltic Sea region. The study in the initial phase of the project has been to reconstruct the palaeo-landscape and to build a geological model of the Baltic target site. Existing information from this multi-disciplinary field has included seismic, sedimentological, biostratigraphic and AMS C-14 dating data. Based on these data the changing geological environments, as well as the palaeogeography, are being reconstructed with respect to sedimentary conditions and water level fluctuations that occurred in the course of the various postglacial lake stages, as well as regional sea level changes.

On the basis of the geological model it will be possible to optimise the process of selecting the target region ideal for non-destructive down-scaling studies, spanning from regional satellite scanning of theoretical optimal target coastal areas, detailed multibeam echosounder and shallow seismic surveying of selected target areas to 3D-seismic investigations of identified archaeological target sites.

All data will be applicable to GIS presentation, interpretation and modelling of the physical appearance of the archaeological sites. The GIS is custom made for input of hydrodynamic and sediment regime data for evaluation of site stability and preservation status.

Similarly, the University of Patras (UPAT) has for decades in cooperation with the Finnish Institute at Athens, University of Peloponnesus, Hellenic Institute of Marine Archaeology (IENAE) and Ephorate of Underwater Archaeology of Greece (Hellenic Ministry Of Culture and Tourism) carried out marine-gleological investigations in Greek waters focusing on palaeo coastal morphology in archaeological sites of Greece (Cape Sounia, Poros and Dokos Islands, Killini, Neapoli). UPAT has experience in investigating ancient submerged archaeological sites and reconstructing the coastal palaeogeography in the eastern Mediterranean Sea. Aegean shorelines usually are characterized by rocky and narrow (and steep) coasts with low sediment accumulation rates. Today most of the prehistoric and historic coastal settlements (harbour and cities) in Aegean Sea, lie underwater due to postglacial transgression, local tectonics and intense coastal dynamics.

These models are being supplemented with input from partners 8 (RCE) The Cultural Heritage Agency of the Netherlands. RCE has a long standing tradition in researching the seabed with the help of other (governmental) institutes such as Rijkswaterstaat. Their previous works have resulted in large scale and small scale models published within the EU-Culture 2000 project MACHU. Within SASMAP the models will be combined to produce maps of individual archaeological value and potential, which will be incorporated into the existing MACHU GIS. The final product will provide the basis for improved decision making when planning subsea development or investigating and preserving known sites in situ.

2. Development of Tools for Surveying and Monitoring Coastal and Underwater Archaeological Sites (WP2)

Mapping and monitoring of an archaeological site is a prerequisite for determining its location, its extent and for assessment of its physical stability. Remote sensing techniques are one of the most cost effective tools for regional scanning of the seabed surface, sediments and their morphology as well as assessing the physical stability of archaeological sites. State of the art satellite imagery techniques are now able to monitor changes in coast line morphology and sediment transport in shallow water environments (to depths of 6-8 metres). SASMAP is one of the first archaeological projects to use such remote sensing techniques to monitor coastal changes. On underwater sites, sidescan sonar, sub-bottom profilers, magnetometers, and single and multibeam echosounders have been used to locate and map archaeological sites both on and within the seabed. Although the use of these tools is not new to marine archaeology, development of existing technologies is one of the significant impacts of the SASMAP project. By contrast, 3D shallow seismic is a cutting edge method and together with other new technologies developed within the project, will give detailed 3D imagery of archaeological sites and environs.

Following a down-scaling approach, i.e. working from the large regional scale to the detailed site scale, has yielded seamless maps that can be used for assessing coastal and submerged archaeological sites. This has been achieved by the following:

- satellite imagery for case study areas (Denmark and Greece) has been purchased from a satellite imaging company and assimilated into a Geographical Information System (GIS), in order to map the coastline and sediment transport in 3D. The development and use of the GIS will contribute to developing a best practice for large scale assessment of the coastal and foreshore zone.

- the stability of the case study areas will be investigated through observing the 3D terrain models of the sea bed surface area obtained from multibeam echosounder (MBES) surveys over the case study areas during the project time span. These data will also be assimilated into the GIS and by comparing data sets from the satellite imagery with MBES data, hot spot areas of the sites which are being eroded, due to sediment transport or conversely covered with sediment, will be identified. These areas will be verified (ground truthed) in connection with research undertaken in WPs 3, 4 and 6.

- A prototype 3D parametric sub bottom profiling system (SBP) has been developed and in the summer of 2014 will be applied to the area at a local scale in order to obtain a 3D map of the sediment structures and to identify archaeological artefacts within the site. This system has not previously been used in shallow water and will be trialled along-
available diver operated coring devices can be notoriously difficult to use in terms of deployment, retrieval and obtaining deep and undisturbed sediment cores. A diver deployable vibrocore-type coring system, will be constructed and tested by AKUT and NM, which can sample sediments down to a maximum sediment depth of 50 cm and without disturbing the surface layers of sediment which are very difficult to sample due to their often mobile nature. The corer will be constructed in such a way that discrete layers within sediments (taken both vertically and horizontally) can be easily sub sampled in order to holistically characterise both sediment type and porewater composition in the laboratory. The device will be used for ground truthing other elements of this and other work packages.

- develop a data logging system which can be deployed to assess pore water composition of sediments in situ to a maximum sediment depth of 50 cm. Parameters to be measured are dissolved oxygen, sulphide content, pH, redox potential, which in combination provide information on the biogeochemical process going on in the sediment and their effect on organic material turnover. This data logger has been developed by partner 3 (UNI), who are world leaders in development of microsensor technology for use in underwater and marine environments.

3. Assessing the burial environment and deterioration of organic materials (WP3)

Buried waterlogged environments provide unique conditions for organic materials such as wood, bone, antler, textile, skin and plant remains to be preserved for millennia, partly due to the low oxygen levels. Conditions in open seawater can, in the absence of wood boring organisms (see http://wreckprotect.eu) also preserve these materials for many hundreds of years. However, deterioration of organic material can occur in oxygen free (anoxic) environments due to the activity of anaerobic bacteria. Research into the reburial of archaeological materials in the marine environment has shown that the rates of organic turnover (deterioration) are dependent on sediment type and their pore water composition (http://www9.vgregion.se/vastarvet/svk/reburial/index.htm). The project will develop tools and methods to:

- improve sampling techniques for sediments, not only for the purposes of this project, but archaeology in general (dating, pollen and other environmental analyses). Currently
The developed tools have been used to obtain sediment samples and monitor conditions on the test site in Denmark in order to better understand why artefacts are so well preserved, archaeologically speaking, and determine which sediment types offer the optimal conditions for preservation should sites be preserved either in situ or through re-burial. The results of this environmental monitoring are also being compared and contrasted with microscopic analysis of representative samples of archaeological wood, carried out by partner 8 (UGOT) from the sites in order to contribute to our understanding of the effects of the environment and deterioration process of waterlogged archaeological wood. Similarly the results will be compared and contrasted with the data obtained by the 3D sub bottom profiler. The EU financed project Baltic Gas (http://balticgas.au.dk/balticgasauk/) has shown the possibility of monitoring methane development with similar equipment. In this manner it may be possible to use this tool not only to localise artefacts but also characterise the biogeochemical processes on-going in the sediment to assess the preservation capabilities of sediments.

4. Assessment of the state of preservation of waterlogged archaeological wood (WP4)

Waterlogged wood is one of the most frequently encountered materials on underwater archaeological sites, and knowledge of its state of preservation whilst still in situ determines whether it can be raised and subsequently conserved, or whether it is sufficiently strong to withstand being preserved in situ. Anaerobic bacteria cause deterioration of archaeological materials in marine sediments and, in the case of wood, they utilise the sugars and complex carbohydrates present in the wood cell wall as a source of nutrition. As deterioration proceeds material is removed and subsequently replaced with water – it is this water which fills the "voids" and allows the material to retain its form. Thus although freshly excavated wood may appear well preserved from an archaeological perspective, i.e. surface details and form are retained, it can be poorly preserved from a conservation perspective and if allowed to dry in an uncontrolled manner it will suffer irreversible shrinkage and collapse.

Within SASMAP a prototype hand held tool for assessing the state of preservation of waterlogged archaeological wood both in situ on the seabed and in the laboratory is being developed. This prototype is based on research and development work which has been on going by partners 1 (NM) and 4 (AKUT). The prototype will be based on the non-destructive determination of the density of the wood. The net effect of bacterial deterioration is that as cell wall material is removed and replaced with water the density of the wood decreases – the more degraded the wood the lower the density. Density is a good physical parameter to provide information about the condition of wood and the implications this has for subsequent conservation or suitability for preservation in situ. Currently there is no device commercially available that can provide this information for marine archaeologists and conservators. Furthermore such a device could have broader implications for the non-destructive testing of non-archaeological timbers used in the marine environment (pilings, harbour installations) or on land (forestry, construction industry).

5. Tools and techniques to raise waterlogged organic archaeological artefacts (WP5).

Due to their fragility, organic archaeological materials from underwater sites can be challenging to excavate, support, raise and transport to conservation facilities. This is due to the inherent difficulties of working underwater (limited time and potentially harsh conditions) and in particular the crucial stage of lifting artefacts from the seabed to the surface where mechanical damage can easily occur. Submerged prehistoric sites in particular contain a wealth of the aforementioned organic materials and complex structures such as fish traps. To surmount this, artefacts are often raised on supporting materials or in sediment blocks (block lifting), whereby the artefact is excavated with surrounding sediment and subsequently excavated under controlled conditions on land in the laboratory. Methods of encapsulating and block lifting have been used in the past to address this, yet can be very time consuming underwater, with artefacts being left exposed to physical damage at crucial stages while consolidating materials are allowed to "set" underwater.

SASMAP draws upon the extensive excavation experience of partner 7 (VM) and the pioneering research into stabilising and consolidating archaeological remains underwater of partner 10 (ISCR) in order to develop best practice methods. This involves the development of the use of polymer based consolidants which can both encapsulate and consolidate sediments, as well as freezing of sediments in order to enable the safe lifting and transport of waterlogged organic archaeological objects.

6. In situ stabilization of underwater archaeological sites (WP6)

Sites which are preserved in situ are threatened by the effects of underwater currents which can cause sediment to be removed from sites, leading to their exposure. Upon exposure, sites are susceptible to mechanical abrasion and erosion, which can lead to their total loss. Furthermore, wooden artefacts can, under the right environmental circumstances, be attacked by wood boring organisms such as shipworm, which can also lead total loss of archaeological materials within relatively short periods of time – years or decades rather than centuries or millennia. The EU supported project Wreck Protect (http://www.wreckprotect.eu) assessed ways to protect historical wooden shipwrecks in situ from the threat of wood boring organisms. All potential methods identified relied upon limiting the access of oxygen to the wood and this can most simply be achieved by covering with sediment. However, simply covering with sediment may not be sufficient as it may itself be washed away. Innovative methods identified actually took advantage of artificial seagrass fronds with visiting seahorse deployed in Italy. (Photo: MBACT).
curtains and sediment transport within the water column to either entrap sediment and create a burial mound or disperse currents so that seabed erosion is reduced. Partner S, (SSCS) is a world leader in scour control systems to prevent seabed scouring and erosion for the offshore industry (gas and oil pipelines, offshore wind turbine footings). To achieve this they use mats of artificial seagrass, which float upright in the water column and entrap passing sediment particles, effectively creating an artificial seabed. The mats have been developed further to test their applicability to protecting shallow water submerged archaeological sites, which are under threat from near shore and coastal erosion. Furthermore, the durability of materials that have typically been used to stabilise submerged archaeological sites in the marine environment, including sandbags, plastic sheeting, geotextiles and debris netting, is being tested.

**IMPACTS OF SASMAP**

SASMAP with its holistic and process based approach to underwater cultural heritage will provide an improved understanding of the environment of underwater archaeological sites, and contribute to best practice for management decisions. Although *in situ* preservation should be seen as a first option for the preservation of underwater cultural heritage this is not always viable due to either the nature of the site environment or the fact that, due to subsea development, sites have to be excavated. SASMAP addresses both these scenarios. The innovative tools and new technologies that will be developed to improve both location and mapping of sites; the excavation and raising of fragile organic materials if it is not viable to preserve them *in situ*. If *in situ* preservation is an option, SASMAP will also see the development of new technologies to stabilise sites and monitor their effectiveness and also the effects these stabilisation materials have on the environment.

Future funding from the European Union for research projects will see an increasing demand for the inclusion of small companies in line with current European policy. The SASMAP consortium includes four SME partners. The SMEs are already leaders in their respective fields and the project is mutually beneficial as it provides the SMEs the opportunity to fulfil many of their own business development plans and develop new tools and technologies. The impact of these new technologies has wider implications than just the SASMAP project and will enable the SMEs to increase their business profiles after the completion of the project.

SASMAP is adopting a European rather than a national approach because the implications of the Treaty of Valletta affect all European nations with territorial waters and thus responsibility for dealing with underwater archaeology

The development of the SASMAP technologies requires strong collaboration between complementary research disciplines that are only found at a European level. Moreover, the involvement of four SMEs in the project is only possible due to the European approach taken. The active involvement of these SMEs will ensure awareness and effective dissemination of the technologies to heritage agencies, cultural resource managers and end users in the offshore sub sea industry. These activities are of vital importance for successful exploitation and marketing of the technologies beyond SASMAP. By taking a European approach, SASMAP will improve the assessment of underwater archaeology in connection with sub sea development by providing heritage agencies with new tools and best practices.

The project will produce two main products; Prototype technologies, and other tools and methods which will contribute to best practice when investigating underwater archaeological sites. The prototype tools developed by the SMEs will be disseminated through both the project’s own home page and the home pages of the SMEs involved along with media (TV, radio, press) coverage. Intellectual property of the prototypes will be the rights of the SMEs but directions for their practical use will form an integral part of the guidelines produced in the project. The new technologies developed by the SMEs will be promoted through the field school that will take place at the end of the three year project. Furthermore, the tools and techniques developed to locate, assess and manage underwater cultural heritage will be synthesised into two guidelines. These will be made available to stakeholders, end users and policy makers at the field school and on the project home page as downloadable pdf files in order to make them freely available.

Further to the prototypes and the guidelines, the project results will be disseminated through publication in peer reviewed scientific journals, popular press, presentations at national and international conferences for marine archaeology, conservation and subsea development. It is also hoped that the project can contribute to European policy for the improved management of Europe’s underwater cultural heritage.

**Acknowledgements**

The project SASMAP has been made possible with funding from the European Commission, grant number 308340, under the Environment working theme, ENV. 2012.6.2-6. Development of advanced technologies and tools for mapping, diagnosing, excavating and securing underwater and coastal archaeological sites. The consortium would also like to thank Attilio Gambardella, the EC project officer, for his continual help, support and encouragement.

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 Implementation of the UNESCO Convention on the Protection of the Underwater Cultural Heritage in Lithuania

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The protection and guarantees for the preservation of Underwater Cultural Heritage (UCH) are provided by effective national legislation. On a global scale, the actual protection of UCH is secured by international commitments – UNESCO Convention on the Protection of the Underwater Cultural Heritage, the regional networks and non-governmental organizations. The necessity of ratifying the Convention was emphasized by the Baltic Assembly in 2003: “to initiate the ratification of or accession to the UNESCO Convention on Protection of the Underwater Cultural Heritage”. Estonia and Latvia are still to ratify the Convention. Lithuania is one of 42 countries that has joined the UNESCO 2001 Convention, which was ratified by the Republic of Lithuania in 2006 and came into force in 2009.

The Republic of Lithuania implemented the Law on Protection of Immovable Cultural Heritage. This national document delineates the protection of UCH, regulates its evaluation and the order of exploration.

The definition of UCH in the Convention and in the national Law of Lithuania differs. The UNESCO Convention says: “Underwater cultural heritage” means all traces of human existence having a cultural, historical or archaeological character which have been partially or totally under water, periodically or continuously, for at least 100 years such as: (etc., etc.).” The Law on Protection of Immovable Cultural Heritage of Lithuania states: Immovable Underwater Cultural Heritage is – “the archaeological objects, sites and the items of immovable or movable property recognised as significant, which are totally or partially under water, where the only or one of the main sources of scientific data thereon is underwater research and findings”. The national law withdraws from above age qualification for underwater objects (firstly, for wrecks). Consequently, entering of UCH into lists of protected heritage becomes more complicated, as each case requires a cultural evaluation. The cultural value of each object is defined by the Cultural Heritage Assessment Board (Department of Cultural Heritage under the Ministry of Culture of the Republic of Lithuania). The national law also regulates the order in performance of scientific research of cultural heritage: “The basic research of immovable cultural heritage shall be funded from the state budget and conducted according to state programmes by institutions of science and studies as well as other state research institutions. Applied and destructive scientific research shall be conducted by the institutions of the relevant field, scientists and the researchers certified in accordance with the procedure approved by the Minister of Culture” (Article 18. 2). The same requirements are also applied for UCH.

New UCH objects are not always found by archaeologists. Very often the first wreck visitors are amateur divers. Only in rare cases the wrecks remain untouched after their visits. After several visits most of the artefacts disappear instead of being lifted. UCH is under real threat until legislative protection is applied. However, before this protection is applied, the wreck can lose many authentic elements. The UNESCO Convention insistently recommends protecting underwater cultural heritage in situ. To stop the commercial excavation and pillaging, salvaging part of the cargo and artefacts, de-accessioning of the artefacts, is not recommended. The national law does not interdict from lifting of artefacts: “In an object protected for scientific knowledge, territory thereof or a site, it shall be prohibited: without the consent of an institution in charge of protection, to move, research, lift underwater objects, separate parts thereof or archaeological findings in inland waters, the territorial sea and contiguous zone as defined in international treaties of the Republic of Lithuania” (Article 17. 1, 4).

However, a real threat to UCH encourages discussion on strict observance of these prohibitions. We presume that in some cases, in order to pre-empt possible pillage and dispersion of collections it is required to salvage some of the artefacts from the wrecks. Salvaging wreck parts appears to be contrary to the Convention, but preserves the integrity of finds from the wrecks. This practice should be applied to accidental finds, but not to the cargo. The valuable cargo can be secured by covering the parts of the wreck with a protective metal net and blocking the openings in the wreck’s interior.

Case studies

Lutra wreck case. The wreck was discovered in 1997 and rediscovered in 2005. This sailing vessel could have foundered in the early 20th century. Since 2011 it is often visited by divers. The ship’s bell was raised in May 2012 after consultations with archaeologists, because of the risk of it being stolen. The wreck is not legally protected. The robbery signs are obvious. In the summer time the archaeologists of Klaipeda University lifted a few artefacts from the wreck. These artefacts are now a part of a collection at Lithuanian Maritime Museum. Should they be taken back and be exhibited in situ? 

Lutra wreck from the early 20th century. The room in the back of the ship. (Photo Vladas Žulkus).
ratified by the Parliament of Lithuania and the State is responsible for its execution. In compliance with the governmental order the Department of Cultural Heritage ought to have priority in receiving information about discovered underwater objects from all institutions, involved in underwater explorations within Lithuanian territorial waters and EZ (Lithuanian Maritime Safety Administration, Ministry of Environment, Port of Klaipėda, Lithuanian Naval Forces, etc.). These activities could be coordinated by the Lithuanian State Cultural Heritage Commission (an authority, subordinate to Lithuanian Parliament). Information about underwater finds should be confidential and expeditiously sent to the Department of Cultural Heritage. After evaluation of the object by specialists, legal protective measures should be taken. However, the period of time between discovery of a find and implementation of protection measures remains to be too long.

UCH is to be respected in all documents and strategies related to the protection of the marine environment. Unfortunately, this is not the case. In the “Lithuanian Proposals for the EU Baltic Sea Strategy” it is impossible to trace a single word about the protection of UCH. What about designation of UCH areas and restrictions for other marine space users?

Exploration of UCH and its preservation is not possible without cooperation with neighbouring countries. In 2009, the University organized a joint underwater archaeological expedition with the Estonian Maritime Museum (gratitude to colleague Vello Mäss) and searched for the Lithuanian Warship Prezidentas Smetona, which sank at the end of WWII off the coast of Estonia. Cooperation with Germany is necessary for the identification of ships that sank in Lithuanian territorial waters during WWI and WWII.

Realizing requirements of the Convention for the education of society, and introduction of the role of UCH in sustainable development, is essential. UCH must be accessible to the society and sustainable underwater tourism concept and principles are to be developed. Measures should also be taken to prevent any further cases of looting and to fight against the destruction of UCH. A very efficient method to preserve UCH is to educate divers and the public. In all cases the UCH objects require periodic monitoring, competence and resources.

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The Baltic Sea region material and written sources form valuable leads for archaeological interpretation. Its common potential regarding the interpretation of wrecks was more thoroughly presented in a research by Christian Ahlström on the basis of different case studies. Since nowadays the discoveries of new wrecks have increased exponentially, the need and interest towards the identification of the wrecks has also increased. Therefore in Estonia, one of the most important outcomes of the project was the creation of the online Wreck Register (register.muinas.ee) comprising documents of field expeditions and short descriptions of archive materials together with digitalised original documents.

The Wreck Register was established due to the practical need to gather statistical information on shipwrecks that have taken place over the centuries with various types of ships as well as due to the need to appreciate our underwater heritage and facilitate access to documents that have so far found too little use. In Estonia, there have also been attempts made to identify wrecks of historical sailing ships on the basis of archival sources, but usually the randomness of examined documents and making premature conclusions have played a key role. Occasionally it also appeared that some of the wrecks that were known to have sunk really had not sunk or/and they were known under the wrong name. Concise presentation of numerous data makes the work of researchers much easier, enabling them to compare and interpret various historic and archaeological sources and creating a wider platform for scientific discussion.

The first maritime archaeological expeditions in Estonia, in the waters of Hiiumaa, resulted with the find of a 19th century sailing ship. It was found during the second year of the expeditions in 1979. The wreck was carrying a cargo of coal and was identified as the English brig Aid that had foundered in 1863. In the course of project SHIPWHER, some other alternative candidates for identifying the wreck arose from written sources.

Maritime History Sources: Publishing and Possibilities of Usage

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A three-year international project Shipwreck Heritage: Digitizing and Opening Access to Maritime History Sources (known by the acronym SHIPWHER), initiated by the National Heritage Board and funded by the European Regional Development Fund through the Central Baltic INTERREG IVA Programme, was launched in 2010. In addition to the National Heritage Board, the project was carried out by the National Archives of Estonia, the Estonian Maritime Museum and the Swedish National Maritime Museums. The aim of the project was to introduce the rich cultural heritage of the Baltic Sea to the public and raise awareness of the need to protect and preserve the underwater heritage.

The project activities were presented at the annual Marine Fair in Tallinn. This was a good opportunity to introduce the theme of underwater cultural heritage to those travelling on the sea. (Photo: Urve Russow).

The Baltic Sea region material and written sources form valuable leads for archaeological interpretation. Its common potential regarding the interpretation of the past and testing methods for analysis of written sources in the identification of wrecks was more thoroughly presented in a research by Christian Ahlström on the basis of different case studies. Since nowadays the discoveries of new wrecks have increased exponentially, the need and interest towards the identification of the wrecks has also increased. Therefore in Estonia, one of the most important outcomes of the project was the creation of the online Wreck Register (register.muinas.ee) comprising documents of field expeditions and short descriptions of archive materials together with digitalised original documents.

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The Register is definitely of interest to the representatives of various disciplines. The entries in the Wreck Register are presented in Estonian and in English and since all the fields can be searched for separately, it is very handy to select the information of interest. The web environment offers answers to queries, for example, on how many wrecks from one era or another there might be in our coastal waters and what were the main goods shipped at the time. Answers are given in approximate numbers but at the level of a certain shipwreck, discrepancies often occur when comparing written sources with each other or against archaeological data.

When we think out of the boarders of the SHIPWHER project, the Wreck Register is of interest to local entrepreneurs, tourism developers, researchers of local history, scientists, protectors of cultural heritage and many others. Hopefully the Wreck Register will find use also outside of Estonia, because the ships themselves are international cultural heritage connected to the histories of several countries. So, I hope you will enjoy using the Wreck Register.

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So far, there are not many entries made to the Register about ships that foundered in the 20th century. The cargo steamer E. Russ that was studied and documented in the course of SHIPWHER project was one of those wrecks that was forgotten shortly after sinking. The good condition of the wreck, its interesting history and so far untouched appearance, have made the wreck site very popular among divers.


Information about shipwrecks was collected from the Historical Archives of the National Archives of Estonia, the Estonian State Archives and the Tallinn City Archives. Data from the collections of the following foreign archives can be found in the Wreck Register: the Swedish National Archives, the National Archives of the Netherlands, Lübeck City Archives and Amsterdam City Archives. The documentary heritage found in the Historical Archives of Estonia has been examined most systematically and thoroughly. A total of approximately 1900 files were reviewed in Estonian archives. The main data that has been entered into the Wreck Register are the ship’s name, dating, information about the cargo, the story of sinking etc. and materials about around 1100 shipwrecks were collected. The information about one single ship was gathered from various sources. One must use the archival and other sources like newspapers, online databases, directories on shipwrecks in an integrated and critically correlating manner. At the moment, data concerning over 1,200 shipwrecks in Estonian waters has been entered in the Wreck Register. Shipwrecks of the 19th century were covered the best, constituting over 50 per cent of the entries made to the Register in the course of the project. For the time being, the 20th century shipwrecks, including the ships that sunk during WWII and WWI have been entered to the Register to a minor extent. Although there is great public interest towards the war events of the 20th century, the primary objective of the project was to present the part of the heritage to which access is more complicated and which has been less published.

One example of incorrect identification is the shipwreck found years ago in Kolga Bay in the northern coast of Estonia. The wreck was dated to the 19th century and was initially identified as a Swedish merchant ship “Maria”. Now it has become evident from the archival sources that the Swedish ship “Maria” did not sink. Fortunately for us, we found a story of the shipwreck of a Dutch merchant ship Barteld Herman that matches with the information of the wreck in Kolga Bay.

(Photos: Tanel Urm).
The Vrouw Maria was found in 1999 and in 2001–2004 the NBA studied the wreck within the framework of the EU funded MoSS project. An analysis of the Vrouw Maria published by the NBA in 2007 presented five different alternative futures for the wreck. One of these was raising the ship. After evaluating the alternatives, the NBA recommended the Vrouw Maria Underwater project. Raising the wreck could be possible later.

An essential part of the Project has been the underwater archaeological research carried out on the site of Vrouw Maria. In 2009–2012 there were eight weeks of fieldwork in total. There were two goals: continuing the documentation of the wreck and trying to make a conclusion of the measures already taken for reconstructing a sailing ship Vrouw Maria, and researching the contents of the cargo hold by taking samples from the cargo hold and lifting some artefacts. In addition, new photos, underwater video shootings and a 360° above water landscape video clip were taken. The remotely operated video camera was used for the surveillance of the visual changes in the wreck. In 2013 a new 360° installation by 3D wec360 AB was produced by Erik Rådström.

Field research in 2009–2012 yielded new information about the ship, its cargo and life in the 1700s. For example glass lenses, pumice stones, tobacco pipes, a sounding lead was raised from the wreck. Samples provided information on red woollen textiles dyed with cochineal, grape seeds, coffee beans, tobacco and indigo. Some of these materials are mentioned in the written record, but some of the finds are totally new. The wreck itself was measured, studied and photographed. A variety of analyses, expert opinions and research into archives and literature have shed further light on the Vrouw Maria’s story. Studies of the wreck have also proved that even the most non-invasive methods can generate new data.

Main cargo hold. (Drawing: Tiina Miettinen, NBA).

Preparations for diving at the site of Vrouw Maria. (Photo: Vesa Hautsalo, NBA).

1 http://www.nba.fi/fi/kulttuuriymparisto/arkkeologinen_perinto/va_perinto/tuksimukset/vrouw_maria
2 http://www.nba.fi/fi/Fi/496/vm2006.pdf
3 http://vrouwmariavedenalla.wordpress.com/
To make this scientific work more accessible, the progress of fieldwork and its results was published on a blog. Besides text, the blog also shows video footages, still photographs and, in addition, underwater sounds recorded on the Vrouw Maria can be listened to. The project’s website also offers further information about the project, fieldwork and research results.

According to its name the Vrouw Maria Underwater Project aimed to keep the focus in the underwater world. It aimed to enlarge our visions and ideas of a wreck site showing that every site has also a unique underwater landscape and soundscape and the divers – in the case of Vrouw Maria only about 70–80 persons have ever dived at the site – who have visited and worked there, have memories and experiences of the site. In addition, the landscape idea made it possible to have a more holistic picture over the site of Vrouw Maria.

These experiences of divers aim to remind us that heritage is a combination of the site and the users of the site. The underwater landscape and soundscape were approached from a human geography landscape research point of view, or point of hearing, one might say. The aim was to use words and various pictorial presentations, video and photographs as well as an innovative, interactive 3D virtual simulation, to describe the surroundings of the Vrouw Maria in her underwater valley, the soundscape and what the location and the space could be like beneath the water. The Vrouw Maria site also has a geographical and spatial dimension. As a site, the wreck has a specific location and a material form. It encompasses places of departure, arrival and waiting, non-places, paths and intermediate waters representing abstract space.

Vrouw Maria’s underwater landscape and soundscape was made accessible in the Maritime Museum of Finland’s exhibition “Lost at Sea – The Story of the Vrouw Maria and the St Michel” where it was possible to make a virtual underwater scenic voyage to the Vrouw Maria and its underwater landscape and soundscape with the aid of a virtual interactive 3D simulation. This globally unique simulation opened up a landscape that no person had ever set eyes on. The simulation was produced in partnership with the Media Lab at Aalto University. The exhibition provided further information on the Vrouw Maria’s story, her discovery and cargo, the ship herself, and the 1700s – a time when people were already living in a global age. One could also see digitised artefacts raised from the ship and learn more about the debate surrounding the discovery of the wreck. In addition, the exhibition’s illustrated guidebook “Lost at sea, rediscovered” provided interesting and educational reading in the form of 15 articles describing the stories of Vrouw Maria and St. Michel – another well preserved 1800th century wreck in the waters of Finland.
The Vrouw Maria Underwater project’s final seminar, called “From the Vrouw Maria to the Titanic – What to do with intact wrecks?” was organized on 9–10.11.2012 at the Maritime Centre Vellamo in Kotka. The seminar covered both the study of the Vrouw Maria and other current wreck projects. It also offered an ideal opportunity to discuss what to do with the Baltic Sea’s well-preserved wrecks.

What have we learned from Vrouw Maria? One way to look at the huge amount of different types of information and data is to divide the story of Vrouw Maria into three different narrative types:

1. Archaeological/historical narrative.
2. Environmental narrative.
3. Landscape narrative.

The first type of narratives has been collected during the years of 1999–2012. The second type of narratives was collected especially during the MoSS Project and the last type of narratives was collected during the Vrouw Maria Underwater Project. A fascinating question is, that shall there be a new – a fourth layer - of narratives? What kind of story could that be?

The Vrouw Maria Underwater project handled with challenging, innovative and globally current multidisciplinary themes like in situ preservation and virtual accessibility. The project succeeded in finding and developing good practical methods to make underwater sites more accessible without raising wrecks. These methods can be adapted also for other underwater sites.

Collaboration between the Swedish National Heritage Board and the local County Museum on Gotland proved to be a useful way to engage the community after a major breakdown of the medieval Visby Town wall in 2012.

In February 2012, parts of the medieval town wall of Visby on the Swedish island of Gotland collapsed. The downfall gained much attention due to the fact that the Hanseatic town of Visby is a World Heritage Site, the town wall forming one of its major attractions.

This was not the first collapse that the 750 year old wall had undergone. In fact, there have been major breakdowns with regular intervals throughout the centuries. Some of these damages were never repaired, whilst others were re-built in different ways. Thus, the town wall shows multiple ways on how previous damages have been handled, forming a visual biography of the monument that is highly interesting.

An urgent situation

Immediately after the downfall, the actors in charge of the ownership and management of the town wall got together to discuss how to handle the situation, both concerning security, communication and conservation actions. The matter was urgent, since the collapse had caused a situation where the remains of the wall still standing were not stable. Also, there was a need to share the information about what had happened and which steps were now to be taken with the general public.

Part of Visby Town Wall that collapsed in February 2012. The picture is taken shortly after the downfall. Notice the remaining parts of the top of the wall that create an unsecure environment beneath. (Photo: Karl Melander, Gotlands Museum).
Many actors and “experts”

There are many actors in charge of the monument; the Visby Town wall is owned by the Municipality of Gotland (Region Gotland), and managed by the Swedish National Heritage Board (Riksantikvarieämbetet). The Gotland Museum is responsible for the implementation of conservation activities. The museum also takes charge of the public activities connected to the wall such as lectures, guided tours, programs for teachers etc.

Evidently, the collapsed town wall gained much attention: on a regional, national but also on an international level. Immediately after the collapse public discussions over whether to reconstruct the wall or not got started. The debate was lively at social forums, on the radio and in newspapers. Pretty soon there were a whole bunch of professional and non-professional “experts” appearing, knowing exactly what to do and which actions should be taken. Most of these opinions were not evidently based on what was the actual, very complex situation, but rather on hypothetic versions of the breakdown. It became obvious that there was a need for ongoing professional communication and information about the situation in order to prevent this kind of non-proper “experts” to dominate the debate.

Project being formed

In order to deal with the issue professionally the National Heritage Board formed a project group consisting of the actors in charge of the management of the wall. The group was extended by experts on structural behavior, masonry and mortars, archaeology, conservation officers and building-antiquarians in order to get a thorough judgment of the current situation as the first step. The monument was investigated from different aspects; photogrammetry, laser scanning, structural analyzes, studies in the archives, analyzes of mortars and geotechnical investigations. Thereafter research and discussions on how to handle the damage from antiquarian and technical aspects started. A project leader was engaged to plan and coordinate all actions. Communicating the ongoing investigations and works to the public and other professionals was seen to be of fundamental value, therefore a person responsible for the communication of the project was engaged.

Pretty soon a decision was made to reconstruct the fallen part of the wall. The decision was taken both for antiquarian and technical reasons, but the very strong public wish to rebuild the fallen part also played a vital role in this decision. It was evident that the major request from the community was to repair the wall, not leaving it in its ruined status.

A research project to deal with the complicated and multidisciplinary reconstruction was formed in cooperation with Uppsala University. The task was complex; due to the fact that the top of the wall was left hovering over the fallen part, it was not possible to work underneath it. Also, the fallen stones in front of the wall could not be removed since they formed a counterfort supporting the weak remains of the fallen town wall. The remaining parts needed to be secured with a huge iron-construction, after which the damaged section of the wall was taken down stone by stone. This was done in cooperation with archaeological, technical and antiquarian expertise in order to catch and document the stratigraphy and original construction and materials of the wall. It was important to inform the public about the complexity of the action, in order to get an understanding of the relatively high costs of the repairs. Once understanding the whole picture, most people would agree on that the actions were proper and that the expenses were acceptable.

A strong public focus

It was obvious that the preservation works needed to have a strong public focus because of the massive interest that the collapsed wall had brought on. The decision was of course supported by the fact that the wall belongs to the public, to all humankind – as do all world heritage sites and other cultural heritage sites. The project was also thought to be an excellent occasion to initiate an open discussion on topics such as common responsibility for the cultural heritage and the importance of it for the society.

Naturally the town wall was to be preserved in situ. This means that many public events also took and take place at the site. Guided tours focused especially on the wall and its collapse are popular since in contrast to information signs and web-sites the visitors can get their questions answered and receive further information on topics that are interesting particularly for the individuals attending the tour. To be able to welcome special groups at the building-area, helmets and vests are provided for visitors at the site. Particularly professionals are welcome to visit the site in order to exchange experiences concerning historic masonry and restoration-actions.

In addition to what happens in situ, the public is encouraged to visit the exhibitions at Gotland Museum to get more knowledge about the monument and its background. The museum also offers lectures, training for teachers and seminars.

Updated information is available on a special page on the National Heritage Board’s website www.raa.se/visbyringmur, and in situ on information signs. At regular intervals the press is informed about the process of the works. Short notices on the status of the project are published on a blog at regular intervals, and even shorter notices and photos are shared on Facebook.

Behind the scaffolding. The damaged part was covered by huge scaffolding during winter 2013 in order to prevent it from further moist and frost. It also allowed for closer examinations of the construction. (Photo: Ulrika Mebus)
Fund-raising campaign

A fund raising campaign “Save the Town Wall of Visby” was initiated by the Gotland Museum and has helped finance the works with the town wall. The campaign has inspired private people and companies to donate, sometimes in combination with actions such as marketing a product where parts of the income go to the campaign, or schoolchildren selling cakes to donate the money to the town wall. All donors are displayed on the web-page of the Gotland Museum.

Expert seminars

Half a year after the downfall, an expert seminar was organized at the Gotland Museum. The purpose was to collect experiences and know-how on similar situations although there was no case exactly comparable to the one of Visby. After the reconstruc-
tion works are finished by September 2014, another seminar is planned to take place in the spring of 2015.

Results of the project: Engaged citizens and increased knowledge

The combination of events in situ and in the Gotland Museum proved to be successful and have increased the interest towards the medieval monument and its management significantly - citizens are now more engaged than before. Since the Gotland Museum is located near the monument it can serve as a “hands-on-partner” to the National Heritage Board, helping the national authority to meet the public and their need for information, events and part-taking in ongoing cultural heritage projects such as the reconstruction of Visby Town Wall. The new knowledge about the town wall emerging from project could be communicated in the exhibitions and programs at the Gotland Museum immediately, giving the audience updated information about the medieval monument. The project model: close cooperation between a state party and a local professional heritage actor with a strong public focus has proved to be a useful way to engage the community in the management of Cultural Heritage.

Tarnished Diamonds:
About the Military Past of Tallinn’s Coastal Area.
Fort of Kalarand and Double Battery

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Fortifications to protect the port were built outside the Tallinn city wall already during the Middle Ages. Some detached fortifications were completed before the Great Northern War, when the Swedish power was replaced with the Russian one on the Estonian areas in 1710. The Russians started to intensively secure the port and shipway – the war was still ongoing.

Step by step, the defensive structures of Tallinn were relocated from the city to the military port. Russians erected two batteries in the 1710s into the shallow waters next to the port. The batteries were reconstructed into a fort known as the Double Battery. Not far from the battery on the coast of Kalarand, a large fort was erected. After the setup of a similar structure on the eastern coast of Tallinn Bay, they were given new names – the Western Battery and the Eastern Battery. They were both substantially reconstructed after the situation had turned tense on the Baltic Sea in 1727.

Tallinn and its surroundings in 1801. The plan depicts the city’s fortifications as well as all major detached fortifications. (Map: Estonian Historical Archives, EAA 79-2-450).
On the initiative of the new Emperor Nicholas I, the new defence plan was drawn up in 1827-29. In accordance with the plan, a new Prussian-style limestone fort was erected on the spot of the Western Battery, which had to protect the land and coast, as well as the sea front. The complex included a large curved building (not just “gorge” as usually called) in the gorge which was a réduit for the fort and a flèche building consisting of two wings adjoining a sharp angle (not ‘lunette’ as usually called), earthworks, moats and other structures. The whole fort was called the Defence Barracks for its joint function of defence and accommodation. Later on, the name Battery Barracks was used, and then simply the Battery by folks.

The construction started in 1829. Neither cash nor labour was saved, but the works could not be finished in time and the costs grew higher than initially planned. In general, the main buildings were completed by the year 1837. After that, additional earthworks and moats were established and the battery of mortars (cannon with a very abrupt firing line) could be placed on the top of the flèche.

For some reason this plan was abandoned and the redoubt was built near the top of the flèche, the centre of which was the stone gun building (caponier) for strengthening the presumably weak landward defence. Today, the gun caponier is known as the Mortar Battery, so the name and function are contradicting each other. All these fortifications were ready for their new purpose at the end of 1830s. They were very picturesque from the seaside and a number of Romanticist artist have depicted these views.
In August 1854, during the Crimean War, the British-French joint fleet reached the fortress of Bomarsund, the troops from aboard landed and without delay conquered all parts of the fortification one by one. It was a big shock for the Russians. They abandoned all separately located smaller fortifications, which could not be supported by infantry. Likewise in Tallinn, the Double Battery was destructed and deserted.

The Crimean War ended in 1856. The fortress of Tallinn was closed and the conversion of the main part of the fortifications into civil use was carried out during the next dozen years. The Fort of Kalarand was reconstructed into regular barracks in 1869. The flèche building was built into the place of the three-storied one in 1892, as more space for barracks was needed. The riding hall in the southern wing of the fort, built in 1885, was rearranged, so that this could be used as the military Russian Orthodox Church, by merely installing a movable iconostasis into the hall. The Double Battery was sold to be dismantled as building material, and waves started to break it into pieces.

After the Russian revolution in March 1917, Tallinn was short of prisons. In 1919, it was found that the barracks of Kalarand were abandoned and in 1920 they were turned into a prison. Passable casemates which were so far used for military purposes and accommodation, were separated with partitions: the landward enfilade so that a corridor was formed, and the space remaining seaward formed into two cells. Workshops were built to the ground floor of the gorge building, ambulance and office rooms to the flèche building. An extension with 48 solitary cells was completed in the southeastern side of the gorge building in 1932.

The former flèche wings were connected with the new building in 1934, having 500 places for the prisoners. Setting up a new building eliminated the old well, but the beautiful granite blocks of its parapet remained there lying already outside the prison. The sculptor Juhan Raudsepp noticed these blocks and used them for designing a fountain to the new park in the former exhibition area between the old town and railway station in 1934. In 1936, the former beautiful parapet formed a harmonious ensemble with the sculpture “Sitting woman”. Thus, a piece of the Fort of Kalarand has preserved elsewhere in the City of Tallinn.

The prison life continued during German, as well as Soviet occupations. Only the utility rate and “turnover” were considerably higher – as known, at times up to five thousand people stayed in the prison. In about 1970s, the furnace heating was replaced with distant heating and water closets were installed. Before the Olympic Yachting Regatta held in Tallinn during the Moscow Olympic Games in 1980, the iron ribs were placed in front of the seaside windows so that the yachting foreigners would not notice the existence of the prisoners.

In the 1990s, the idea was created to close the outdated prison. Several unrealistic plans turned up, among them ideas to sell the old prison, reconstruct it into a hotel, and for the money obtained from it, construct three new prisons.

In the beginning of 2000s, an idea emerged to give the fort to the Estonian Art Academy (Eesti Kunstiakadeemia – EKA). EKA could have accommodated all its activities in the fort. EKA joined a Pan-European revitalization programme SHARP (Sustainable Historic Arsenal Regeneration Partnership), which chose the Fort of Kalarand as one of four historical structures to be revitalized. The functioning of each of them for new public purposes would have been an important cultural event in Europe. EKA would have solved its room problem and received an attractive challenge for specialists and students of the relevant specialities of awakening the prominent structure into public life.

In spite of an enormous amount of organisational work done by the rector of the academy Ando Keskküla, this fabulous idea, which would have enlivened the whole seaside district and opened the city to the sea, remained undone.

Most of the prison had moved out already by the end of 2002, and completely by 2005. So far, all splendid projects have stayed on paper. The prison structures erected during the Soviet occupation period were started to be demolished, and the views of the initial structures to be opened in 2011, although smaller parts of the main structures and the redoubt of Mortar Battery – earthworks, moat, scarp, counterscarp etc. – have preserved beneath the ground.

The complex has served as a temporary prison museum since then, and various events of so-called adventure tourism, but also concerts, art exhibitions etc. have been organized there. The Estonian War Museum is working on the idea of establishing a multi-functional cultural and business centre in the fort, but the owner, State Real Estate Ltd., does not have any other idea than alienating the whole fort. So, the future of the Fort of Kalarand is still unknown.

Today, the parapet of the well of the Fort of Kalarand decorates a fountain in a park that was established on earth fortifications in Tallinn. (Photo: Robert Treufeldt 2012).
The Double Battery is used as storage of different navigation equipment. Towards the end of 1970s, during the preparation of the forthcoming Olympic Regatta, there were plans to expand the port and reconstruct the fortification as a breakwater. Ideas of reconstructing the Double Battery as a medieval-like castle, came forth at the beginning of 2000s. Fortunately, there was not enough will and money to realize these ideas.

In 2006, NGO Castellum (Estonia) together with participants from the Netherlands, performed a seven-year-lasting joint project to reconstruct the Double Battery into the complex of exhibition spaces, cafeterias, viewpoints etc. Unfortunately, Tallinn City authorities offered neither help nor co-operation, that is the reason why the Dutch partners lost their interest and left. Thus, the Double Battery is still without any function, and its remains are under the rule of the forces of nature.

Both fortifications are longing for the regeneration of their splendour and the possibility to enrich the sea view of Tallinn with their imposing outlines, as it used to be in 1840s. The future of these fortifications has to be in harmony with the tourist-orientated Tallinn, which already boasts the Old Town as a site of World Heritage. In conclusion, these tarnished diamonds urgently need to get back their lustre.

This is what the Double Battery looked like on the peak of its mightiness. Front view of a computer reconstruction. (Image: Robert Treufeldt and Jarmo Udras 2008).

Double Battery as seen from the city, i.e. by the defenders. Rear view of a computer reconstruction. (Image: Robert Treufeldt and Jarmo Udras 2008).

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The Urban Challenge of Change

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Urban change

Today, the word “crisis” is often used to describe the current status. The climate, the economy and Middle East peace are all in more or less of a crisis. The mandarin characters for the word “crisis” – consists of the characters of “danger” and “opportunity / critical point”. The world is constantly in a state of change.

“The Changing Coastal and Maritime Culture”: Humankind has always been attracted to the water. For thousands of years this had to do with water as transportation, or water as the source of food. However, today people are attracted to water as a source of recreation – looking at it, swimming in it, living by it.

The population influx into cities continues. It seems that in all parts of the world, the urban population has stabilized at around 80 per cent. This round estimate applies for cities in all continents, in nations on every different stage on the development ladder.

Most cities have a history going back at least a century, many as long back as a millennium. These are most likely functionally connected to water; the sea, a lake or a river. In these urban settlements, the waterfront is most densely built up area. Also historically, these were most often the most popular locations.

The history of urban planning

The attraction to water also applies for contemporary urban developments. With the transformation of the grey or brown areas - these are the locations where developers intervene. Today’s urban planning is formally under public control – as it has been since the instruments for controlling urban growth were created.

The source of power has changed through the course of history. In the middle ages, rulers constructed fortresses protecting their towns (or they directed the cannons inwards, to protect their own power). During the two great waves of industrialization in the 17th and the 19th century, there was a need to control the settlements of people moving into towns. Later in the 19th century, the democratic institutions developed. This also shaped public area planning.

Today, there is an interaction between local, regional and national institutions that all have a voice in planning decisions. Commercial actors have also entered the realm. This was a result of the extensive commercialization of many aspects of society in the 1980s (as seen before, i.e. in the commercial market for urban dwellings during the 2nd industrial revolution in Europe).

Property development is currently a growth industry. The central urban areas are the most sought after. Even in countries with slower economic growth, in a period of global economic slowdown, the urban properties are seen as popular and safe commodities. The ones topping the lists are the ones closest to water.

The pressure is considerable, and increasing. In this context, new tools are needed.

Urban waterfront development. Norwegian examples

Bryggerekkene, Trondheim.
Warehouses at the downtown waterfront, some dating from the 17th century. The rows of warehouses are an iconographic picture of Trondheim. Many of the houses are not in use, due to difficulties in technical performance. A project is now starting, aiming to find new uses for these valuable properties.
(Photo: Norwegian Directorate for Cultural Heritage).

Nydalen, Oslo.
An industrial area in Oslo dating from 19th century. A massive development took place along the Akers River with the second wave of industrialism. When the industry was relocated around 2000, dwellings, entertainment and office spaces were created in the historical industrial complexes as well as in new buildings.
(Photo: Norwegian Directorate for Cultural Heritage).
Methods

How do we create good waterfront cities? A part of the answer lies within maintaining cultural heritage in the area that is to be redeveloped. An important part of this is securing the distinct identity of the area, which will contribute to people feeling a connection to the place.

Through the Baltic Heritage Cooperation, the projects “Urban Heritage as an Asset of Development” and DIVE, have been finalized. DIVE is the operational method of analyzing a settlement and its history. Through the analysis, awareness about the tangible heritage is created among the actors.

Structure of the Approach

A procedure for transforming historic information - from passive to operational knowledge

The NB register

Through analyzing approximately 100 towns and cities in Norway, the Directorate created a register available on the internet. This register contains a complete list over what we characterize as urban areas of national interest regarding cultural heritage, NB (Norwegian abbreviation, see www.ra.no/nb).

The NB-register has been a project at the Directorate since the 1990s. Has urban cultural heritage played a role the historical growth of the cities? Within the cultural heritage community there is an agreement that it has been substantial. The existing fabric of the city, whether 400 or 50 years old, in combination with its written history, provides its distinct identity.

After some years of theoretic work, NB was set up in 2006.

The project team decided that we had to take a new approach in the quest of finding the relevant areas. We had to see: What was the actual array to select from? There were a lot of questions, including - what can we define as a city or a town? Here is an example of some of the most significant questions:

- What role the town has in history, was it of national importance?
- Is there any physical evidence of the urban history of national importance?
- Is the authenticity and integrity of the cultural heritage intact in the urban area?

Then, the formidable project began. In 3 years, the project group visited 72 cities and towns in Norway, from a tentative list of 120. The initial list had been produced thorough a broad collaborative work, first within the directorate, then through consultation with the regional cultural heritage authority within the 19 counties. The list was then narrowed to about 75 towns and cities. These urban agglomerations have been checked against a framework of the national history of urbanity. We developed this framework, based on the most recent and relevant historical literature.

The result of this work became the NB-register. It was opened for the broad public in 2010, after a year of testing by the regional authorities and some chosen local city governments.

An NB-area in Bergen, the historic neighborhood of Wesselengen. Wooden dwellings from the late 19th century.

1 Today in Norwegian legislation, there is no difference. From the middle ages until 1942, there was a system of trade and tax privileges.
Evaluating conflict cases

The Holy Grail: How do we evaluate new development within historic setting in urban environments?

Every new project is different, every historic setting is different and every situation is different. There are, however, some principles. These are no pre-determined guidelines, but conclusions that the panel of professionals concludes on at the directorate reach. The panels generally consist of architects, archeologists, ethnologists and art historians. The composition of the group depends on the nature of the case.

In these evaluations, we attempt to prioritize volume more than architectural expressions. Architecture is an art form, and should in many ways represent the contemporary. In extreme cases however, the expressions of the new architecture is of course also considered. Again, it all has to be weighed against the nature of the case, the situation and last but not least, the cultural heritage objects affected.

As said, it is important to emphasize that all cases are different. There is no facade. There is however, a group of questions we repeatedly ask in urban settings.

- How is the new project impacting the overall (urban) landscape?
- How is the new project impacting on detailed level (street level, neighboring buildings etc.)?
- How is the new project impacting existing cultural heritage objects in situ; on the spot?

Adding to these overall questions are an array of others, individual or related factors that need to be considered. These x-factors differ from case to case.

Conclusion

All cases are unique. There are some analytic tools that shed light and a set of standard questions to be asked in an urban planning situation. The challenge is weighing the different answers up against each other. Valuating and prioritizing is also a key. Having the experience in doing these kind of analyses and weighing of values is an asset. In addition it is important to have a good overview over what will be taken care of. Which cultural heritage assets are we going to bring with us into the future?

These are important questions we have to ask ourselves within the professional community. Databases and overviews are tools to help in solving upcoming challenges, some of whom already are here:

- General urban growth
- More extreme meteorological conditions (climate change)
- The coastal line being more exposed to development than other areas, as human activity from history and the future meet, in addition the more intense climate.