

A diver carefully enters the admirals quarters on the *Mars*. In this space the most vicious and desperate fight occurred while surrounded by raging flames from the incinerating fires

# Mars the Magnificent

16th Century Swedish Warship

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**The Swedish warship *Mars*, otherwise known as *Makalös* (peerless), sank after a sea battle during the Northern War in 1564. For many years, there were attempts to find the vessel in order to salvage the wreckage, but none were successful. Then, in the summer of 2011, the Västervik-based dive team, Ocean Discovery, located a large wreck at a depth of 75 meters just east of Öland. This wreck was eventually identified as the *Mars*. The discovery made headlines in the national and international press and generated great interest in the scientific community.**

The discovery of *Mars* has not only lifted the city of Västervik to prominence as the base of an internationally reknown dive team but has also contributed a very exciting and important part to the history of the region—a history that the state is now in a position to

research and highlight. During the 16th and 17th centuries, Västervik had one of the most significant naval and commercial ship-

yards in which many of the great ships of the era were built and launched. With so much focus and attention now on *Mars*—one

of the greatest archaeological finds from this period—there is also the opportunity to highlight the region's historical importance

as seen from both a local and national perspective. Västervik Museum has been entrusted with developing an

exhibition project on *Mars*, acting as the principal arena for mediation of new research findings that emerge in connection with



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the *Mars* project over the coming years. Efforts to produce films, exhibitions and publications on *Mars* and its contemporaries have begun. Through generous contributions from Sparbanksstiftelsen Tjust district and Västervik as well as the efforts of local scientists, divers, the Maritime Museum and the North Museum, the first stage of the exhibition project was implemented in 2012.

When the documentation and research of *Mars* has culminated, the Maritime Museum has ambitions to include *Mars* in a large international exhibition, which will tour the major cities of the world. Västervik is likely to be men-

tioned in many ways in this exhibition. classes from different parts of Sweden. Most of the crew were drafted sailors from all over the kingdom. Several of them came from Västervik.

The Nordic war of 1563 erupted between Sweden and an alliance of Denmark, Lübeck and Poland during the years 1563-1570. Several conflicts took place at sea, but there were also battles held inland and also in Västervik where evidence still can be found of the destruction wrought by Danish forces. On 30 May 1564, the Swedes led a naval attack with *Mars* under the leadership of Admiral Jacob Bagge. They clashed with the Danish-Lübeck fleet off the northern

Diver measures the end of one of over 120 cannons on board *Mars*

Battle of Öland in 1564; Two of over 220,000 silver coins found on *Mars* (lower right)

tip of Öland, a battle which ended with the defeat of Sweden and the ship's destruction. To the depths the *Mars* sank, with more than 600 crewmen and several hundred Danes.

### History

*Mars* was built at Björkenäs shipyard, north of Kalmar, and launched in 1563. She was a ship of the era, with a displacement figure estimated at 1,800 tonnes, almost 600 tons more than the warship *Vasa*. *Mars* was about 50 meters long and about 13 meters wide, equipped with at least 107 guns of various types. The ship had a crew of nearly 700 men on board and included representatives of both the lower and upper

tip of Öland, a battle which ended with the defeat of Sweden and the ship's destruction. To the depths the *Mars* sank, with more than 600 crewmen and several hundred Danes.

Current knowledge of the 1500s is limited. *Mars* will therefore—in addition to providing facts about the warship, its design and assembly—also make a major contribution to the research of 16th century Sweden. The ongoing findings will gradually document how the crew, officers and senior management of the ship lived on board, and what tools, equipment and personal effects they used. It was also during this time period that guns and

other weapons were being developed using iron and bronze. On *Mars* and the wreck site, old and new weapons technology can be found. To date, it is the largest source of knowledge on guns used in the 1500s, as there are only a handful available on land today.



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The discovery of the *Mars* wreck has brought to the fore not only research on the wreck itself, life onboard and the crew, but also the naval art of the period and its history—something that is particularly important for Västervik, which has historically been a major shipbuilding and seafaring town. The reconstruction of the city in the 1540s was primarily due to the establishment of the shipyard and dry dock on Slottsholmen by Gustav Vasa [the King of Sweden from 1523 to 1560 –ed.]. It was in this shipyard that most of the fleet he created was built. But it was under King Erik XIV (1560- 1568) that the city established itself as one of the leading naval yards in the Kingdom of Sweden. In the 1560s, three of the

Most of the cannons were cast in bronze, which, at the time, was a very precious metal



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Cannon still sits in its carriage. To the right are rolls of lead, stacked. The lead was used for hull repairs but also for casting ammunition for muskets and small caliber cannons; Diver exits the admirals quarters on *Mars* (top)



Mars

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On *Mars*' starboard side, the hull lists towards the seabed. Cannons still point out through their portholes; Cannon ball (below) made of stone most likely used in back-loaded iron cannons

*Early-Modern Maritime Battlefields in the Baltic*, which includes the warship *Mars*, Baltic maritime heritage in general, and the emergence of the Swedish naval fleet.

The research presented in this project will need to be disseminated through various channels to researchers, students and professionals and to schools and the general public. Västervik is a convenient central location to build the field competencies for this research through collaboration with MARIS. The city can thus become a center for maritime archeology

in the central Baltic Sea area, providing research vessels, technical divers and adequate facilities to impart knowledge and research findings to the general public and to schools.

A platform for major activities in the future can be established by having different partners and institutions come together to develop the themes of the research projects, which over the years have been important elements in Västervik Museum's historical mission and the Västervik region's local history.

Findings can be channelled through a modern visual museum of marine archeology and maritime history publications. This may then increase visibility for the Västervik region resulting in the growth of employment in the city of Västervik and the surrounding community.

The development of exhibitions on 16th and 17th century Swedish maritime history is creating something that is lacking in the country today. Västervik Museum will partner with other museums in the country that specialize in maritime history, such as the Vasa Museum and the



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Swedish Navy's largest ships were built at Västervik shipyard—the *St. Christopher*, *Tantheijen* and *Mars*' successor, *Neptune* (later named the *Red Dragon*).

The building trend continued into the 1570s when the Swedish Navy launched its biggest project yet—*Smalands Lion*, at 1,100 tons. According to the ship lists, a variety of vessels were completed over the following decades in Västervik, which during the early 1600s was one of two sites for the building of large ships in the Kingdom of Sweden. The shipyard also received substantial orders for repairs and rigging of ships.

### Vision

The Central Baltic region has a vast and yet relatively unexplored heritage. MARIS, the centre for maritime archeological research at Södertörn University in Sweden, has recently started a major research project called *Ships at War: An Archaeological and Historical Study of*



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Revolutionary mosaic of *Mars the Magnificent* built from 640 individual photos (left); Various vessels were used on the project, all with different objectives and capacity (above); 38. One of the mid size cannons being recovered using the A-frame of RS Triad (lower left)



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Maritime Museum in Stockholm, the Kalmar County Museum and the Naval Museum in Karlskrona.

**The project**

The plan is primarily a three-year exhibition project (2012-2014) conveying knowledge about *Mars*, its present and future research, as well as Västervik shipyard and 17th century Sweden from a maritime perspective. The exhibition project will highlight the national importance of the *Mars* discovery as its base and widen out to both the Baltic perspective and the region's history.

The 2012 exhibition focused on *Mars* with themes about the ship—the battle, the wreck, and the find. Based on current research, the 2012 exhibition told the story of the ship, the Nordic Seven Years War and the Battle of the northern tip of Öland, as well as

the story of the *Mars* wreck, its sensational discovery and important source of knowledge it represents. The exhibition was comprised of text and image banners, underwater films and slides. It was illustrated with finds salvaged from the wreck site and shipping details from structurally similar wrecks of the same era. Produced exclusively for this exhibition was also a hefty 20-minute-long documentary that was presented in a newly built showroom. The exhibition project had its own unique logo and was inaugurated 8 July 2012.

In 2013-14, there are plans to expand the existing exhibition. It will then be moved from the small showroom to the museum's main exhibition hall covering about 400 square meters, supplemented with additional items and wrecks from the same time period. The aforementioned themes surrounding

the warship *Mars* will remain but will be updated as new findings emerge.

At the time of the 2012 exhibition, the archaeological documentation of *Mars'* hull had just begun. During the summer, new dives were conducted documenting the wreck further through underwater footage, photographs and measurements. Meanwhile, archival research continued.

The potential source of knowledge from the *Mars* wreck is immense, and in time, we will learn more about the sinking of the ship and what life was like on board a large warship in the 1500s.

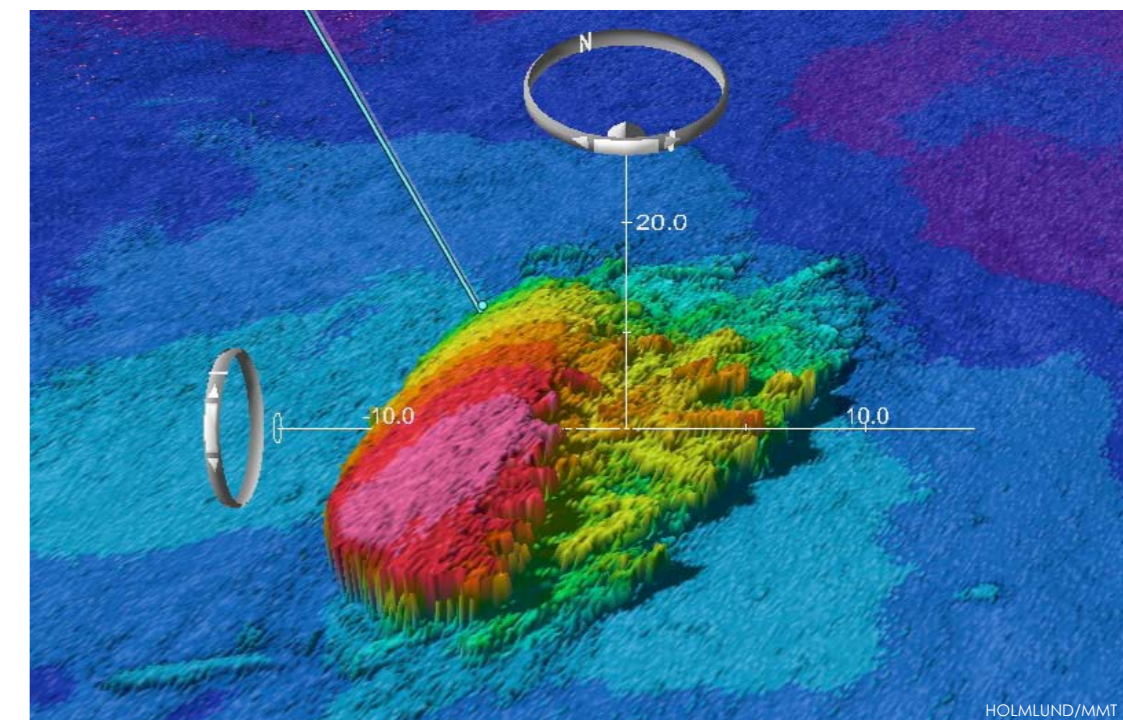
**The wreck site**

The wreck site is vast and complex, extending up to 500 meters beyond the hull itself. Cannon balls, pieces of rope and masts as well as personal artifacts and skeletal remains reveal the brutality of the events surrounding the sinking

of the *Mars*. The wreck is in good condition, and both sides of the ship are almost completely intact. In many places, the cannons are still visible in their gun ports.

The documentation of the wreck is complex due to its depth

at 75m and requires great expertise and technical skill in diving. In order to document the wreck, divers are employing a new and revolutionary technology. Among other things, they devised a new method for documenting the site



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Multi-beam sonar image of the *Mars* wreck site



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Cannons were documented and measured, providing important data for artillery expert and scientist Ingvar Sjöblom; Professor Johan Rönnby and project leader Richard Lundgren check detailed computer analysis of recovered coins (below)

with digital photography, from which 3D projections of various kinds could be developed, thanks to high resolution images.

Divers from different teams and Ocean Discovery have already logged hundreds of hours underwater in order to photograph the

wreck site. Over 600 still images have been merged into a single summary screen where one can see the wreck site in its entirety. This mosaic is unique and will be printed in large format to become a central part of the exhibition.

Västervik Museum is the first to demonstrate this unique mosaic technique in an exhibition.

Each dive also generated a large photo and video. Another documentary film will be produced for the 2013 exhibition to be displayed

in the showroom that was built in the first phase. A slideshow will also be shown with the underwater film inside the exhibition hall, the material of which will be updated as the documentation of the wreck is completed and additional findings come to light, made by the two collaborating dive groups working on the site. Västervik Museum will also present some of the research findings from the MARIS project.

This year we can also display artifacts salvaged from the ship, which were not at all part of this year's plan at the beginning, but have now presented viewers a great opportunity. In 2012, three silver coins dated to 1562 were salvaged from *Mars*, which after scanning can now be exhibited in the security booth for public viewing. The coins are unique, and there are only a few like them in



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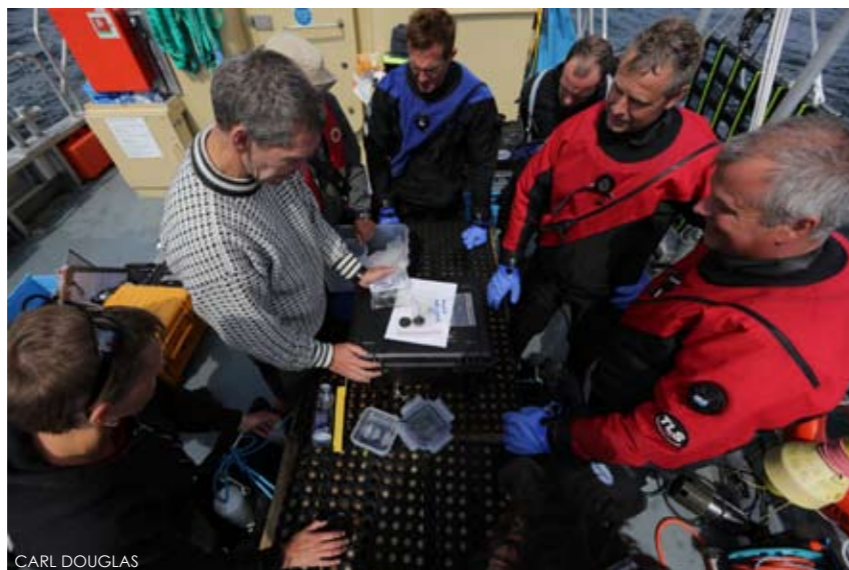


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the world. In addition, objects such as salvaged ship parts and two cannons will be on display in a specially built pool inside the 400-square-meter exhibition hall. This display will be complemented by objects from wrecks of the same era as well as salvaged wreckage from, for example, structurally similar vessels.



CARL DOUGLAS

Included in the exhibition on *Mars* and the Baltic area's marine history and underwater world is a newly built and extended portion of the merchant vessel *Hunchback*. The *Hunchback* sank north of Loftahammar in the 1550s and was investigated archaeologically in the 1970s through a project led by Tjustbygdens cultural association. Today it is represented by a model and salvaged items in a small exhibition in the museum's maritime hall. Last but not least, the city of Västervik, the Västervik shipyard and local history will also be researched and featured in the 2013 exhibition.

In conjunction with the 2012 exhibition, there were also lectures presented by

divers and leading researchers in marine archeology and maritime history, which will be further developed in the coming years to include a conference on marine archeology. The exhibition will be a great asset in the museum's efforts to bring Swedish history to life, especially for children and young people, and further its investment in educational experiences, particularly for schoolchildren in the Västervik community.

### Vision for the 2014 exhibition

For the third year of the project, there are already several concepts developing beyond the completion of data collec-



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Wheel from *Mars* cannon carriage, which differ from later designs

tion and images. These include a model of the warship *Mars* at a scale of 1:10; a 3D studio where one can view the wreckage from different angles on a big screen or explore it on one's own via an iPad; a new film about the wreck and other archaeological objects in the Baltic Sea; displays of preserved artefacts salvaged from the wreckage; a display of a salvaged cannon and its preservation process; and finally, a ready, developed teacher lesson plan program that can

be applied and used in conjunction with the 2014 exhibition.

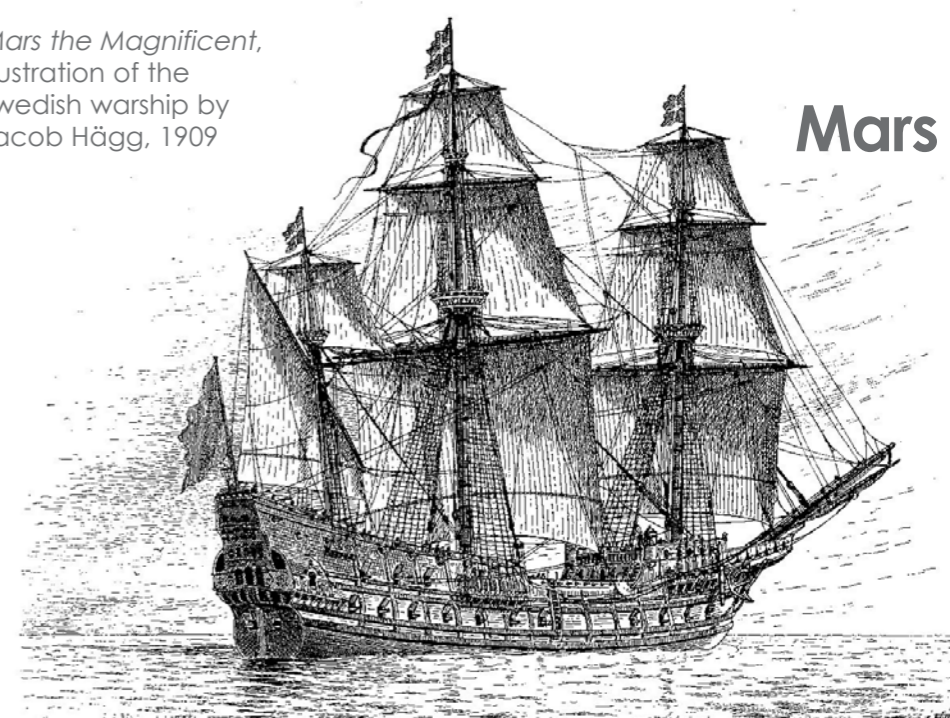
By using new digital visualization techniques to create 360-degree views, the visitor will be able to have an interactive experience of the wreck and get an idea of what it's like to be there. In this method, still photographs are taken in a circular sequence and then processed, or "sewn together", by computer so that



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Cannons onboard *Mars* were all individually cast. They were all uniquely ornamented. The handles, or dolphins, all have different motifs, in this case a sea monster; Professor Johan Rönby (left) inspects silver coins recovered by Jarrod Jablonski, Fredrik Skogh, Liam Allen and Richard Lundgren; Cooking pot illustrates life onboard (top left)

*Mars the Magnificent*, illustration of the Swedish warship by Jacob Hägg, 1909



Mars

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a visitor using an iPad as a controller can turn full circle within the 360-degree panorama. Spectators will also see the image projected on a big screen TV. Objects in the panorama can also be made clickable so the visitor can get more information in the form of text or video.

This technology already exists, and the exhibition of the *Erik Nordevall* wreck in Vättern has a demonstration of the technology. Dialog with the imaging center in Norrköping has already started regarding the development of digital visualization of the *Mars* wreck for the 2014 exhibition. The center is a leader in visualization technology in Northern Europe. Through the collaboration, we can recreate the warship *Mars* as it once appeared and present the ship and the battle in spectacular fashion via 3D technology viewed in a spherical room, for instance, in future exhibitions.

In addition to a model of the warship *Mars*, the 2014 exhibition plan also includes a built-up section of the *Mars* gun deck and admirals salon at 1:1 scale. There will be cannons placed here, and visitors can check out the gun ports where a naval battle will be projected on a large screen using realistic computer graphics. With added sound and smoke effects, it could prove to be a powerful experience, all based on the findings and objects recovered in dives on the incomparable *Mars*. ■

