

# 1974 - 2014



President 1974-1986: Lennart Tingskog



First ship unloader sold (The Netherlands)

First cement unloader sold and with this Siwertell enters the North American market (USA)



First complete dry bulk terminal solution sold, and with this Siwertell enters the Middle East market (Saudi Arabia)



Siwertell enters the African market (Egypt)



First floating terminal sold (Greece)

1974

1975

1976

1977

1978

1979

1980

Head Office in Bjuv, Sweden opens

First international Siwertell representative contracted

# Setting the pace for 40 years

text PER KARLSSON

photos MATS LINDQVIST and others

Since 1974 Siwertell screw-type unloaders have offered the cleanest and most efficient dry bulk unloading systems available, along with very high capacities; this impressive legacy is reinforced by the market's growing demands for increased efficiency and minimal environmental impact

The human population has always been inquisitive; interested in exploring new parts of the world and new opportunities. Seaborne trade followed quickly on the heels of the early navigators. In those early days of maritime commerce, goods were handled by sheer muscle power; crates and other parcels were carried

on and off the trading vessels. Faster sailing ships reduced voyage times, and derricks powered by humans or animals were developed to lift the cargo. With steam power, the speed of development accelerated; faster, larger ships crossed the oceans, while ship and shore based steam cranes were used to load and unload cargoes at rates never seen before.

As populations grew, urban areas became overcrowded and a common solution was to move industrial ports to unpopulated areas in close proximity to the urban centres. This created potential for developments, allowing industrialists to focus on improvements in port handling without the restraints imposed by environmental considerations. Dry bulk material, formerly shipped in bags, could now be loaded loose into ships' holds. This created a demand for new methods of unloading, loading and conveying dry bulk cargo.



Hermes Export price received for fastest growing export company in Sweden  
From left: Prince Bertil of Sweden, His Majesty Carl XVI Gustaf of Sweden and Siwertell President, Lennart Tingskog



First sulphur unloader sold, and with this Siwertell enters the Australian market (Australia)



Record number of floating terminals sold worldwide (during the cement boom in the Middle East 1981-1984)



First 2,000t/h unloader sold (Japan)

President 1986-2000: Lars Jarskog

**Nordströms**

Nordströms (selfunloading systems) is incorporated in Consilium, and is marketed parallel with Siwertell



First shipping of a fully assembled Siwertell ship unloader completed (USA)



First international Siwertell office opens (Hong Kong)

1981

1982

1983

1984

1985

1986

1987

Entering the Asian market

First unloader for Cape size vessels sold (The Netherlands)

Consilium AB (Sweden) becomes new owner of Siwertell



First land-based Siwertell screw conveyor delivered (New Zealand)



## The right machine at the right time

During this period, which continued into the last few decades of the 20th century, the main methods of dry bulk handling were grab cranes and hoppers. Grab cranes were considered to be comparatively efficient and as the port areas were well away from residential areas, no one really paid any attention to the negative environmental impact caused by dust emissions, spillage and noise.

At this time the main concerns for the majority of people, industrialists and politicians, were economic growth, trade, gross national product and welfare. Then, as standards of living improved in the industrialised world, more people turned their attention towards the preservation of nature and wild life, for the wellbeing of current and future generations.

In parallel with this shift in popular opinion, the growing populations inevitably resulted in competition for space between people and business. The formerly isolated ports found themselves surrounded by people in need of living space and attracted to the beauty of coastal locations. Port operators became increasingly restricted as they had to consider the wellbeing of their neighbours along with purely business matters.

Consequently, the market for Siwertell screw conveyors emerged more or less at the same time as the technology was perfected to allow the first machines to be produced in 1974.



Continuous development saw capacities steadily increase, while technical research resulted in wear components with significantly extended lifetimes. Siwertell has always been quick to respond to new market opportunities; and it has also been very pro-active in developing products to meet anticipated demands – evidenced by the announcement of the new 3,000t/h coal unloader.

Loading systems, road mobile unloaders and full terminal systems followed, all bearing the Siwertell hallmarks of efficiency, reliability, high capacity and minimal environmental impact.

Siwertell technology is known for its longevity, and this is further enhanced by attractive service and maintenance packages, along with the capability to carry out major, cost-effective upgrades and refurbishments.

## The ideal solution for populated ports

Quiet and totally enclosed, they were the ideal solution for ports that needed to keep on good terms with the local populations. And as time passes and our appreciation of the importance of the natural world grows, the excellent environmental credentials of Siwertell technology can only help to secure its place in the market for the foreseeable future.

With references from hundreds of satisfied customers around the world, the Siwertell brand's profound technical knowledge and four decades of pioneering experience with screw conveyors ensures that customers will always benefit from market leading performance and service. ■



First Siwertell ship unloader sold to the Chinese market (China)

1988

1989

1990



First 5 000 S mobile unloader sold (USA)

1991



Babcock International (UK) becomes new owner of Siwertell

1992



The 100th Siwertell ship unloader sold (Germany)

1993



Company name changes to BMH Marine AB

1994

First Siwertell ship loader sold (Malaysia)



# Interviews with the experts



**Per Karlsson**  
President

Per Karlsson started working with Siwertell in 1985, taking on the roles of Financial Director, Sales Director and now, President.

## Biggest success

Our biggest success is that we were the first company to enter the cement and coal handling industries with a screw-type unloader. Before this, these two materials had only been handled by grab cranes and pneumatic systems. It was revolutionary back then; no one had done it before. We entered the cement

market in 1975 and the coal market in 1982. To this day, the Siwertell screw-type unloader offers the highest capacities available on the market for its kind, for cement, for coal and also for grain. We can guarantee 10,000 operational hours with our coal unloaders. I do not think any of our competitors can offer the same, I have certainly not seen it claimed anywhere else. Our coal unloaders, spread across all the continents, together handle more than 100 million tonnes of coal each year. This is quite a success story, I would say.

Our mobile unloaders are another significant success story; we started designing them in 1991. In just over 20 years we have sold more than 100 units.

## A negotiation anecdote

I've got a lot of great memories from my time here, and one particular one that makes me smile still everytime I think of it is when I was negotiating for the third contract with one of our biggest customers in Taiwan. This was for two ship unloaders, which were their 4th and 5th unloaders ordered from us. The price

for the two unloaders had already been discussed several times. Then suddenly the CEO asked me to see his younger brother instead, who was working in the purchasing department. I knew then that of course I had to give him some additional discount. When I came back up to the CEO he asked me how the meeting went and I explained that it had been quite expensive for us, but beneficial for him. He answered: "Good, then I have some other brothers I'd like you to see now." He could see from my face that I was not too happy to negotiate with any more of his brothers, so he said: "No, there's no need. The contract is yours!"

## The Siwertell brand

I think the fact that the Siwertell brand name has remained intact through all these years – despite the fact that we have been sold so many times to different companies – says a lot about how strong the brand itself is.

## Siwertell in five years

In five years Siwertell will be the market leader for loaders and unloaders with a wider product portfolio.



First 10 000 S mobile unloader sold (Brazil)



Siwertell ship unloader appears in the Hollywood film Mickey Blue Eyes



First Siwertell service agreement signed (USA)

President 2000-current: Per Karlsson

1995

1996

1997

1998

1999

2000

2001



Siwertell bulk terminal solution sold to the world's largest cement terminal (Singapore)



Included on Ahrens Rapid Growth list as one of Sweden's fastest growing companies



**Bengt Estberger**  
Sales Manager, Mobile unloaders

**Bengt Estberger began working with Siwertell in 1975, starting with practical work in the workshop and factory as part of his education leading to his engineering degree.**

**A wide variety of jobs**

*I have worked in most areas of the factory floor and with our test units, evaluating and handling different types of bulk materials with Siwertell screw conveyors. I then spent 14 years as a Service Engineer and Supervisor; building complete Siwertell ship unloaders on sites worldwide and participating in the start-up of the machines. This was followed by my role as the aftersales*

*market Sales Manager for Siwertell mobile units and screw conveyors. I took part in the development of Siwertell mobile ship unloaders; it has been very satisfying to see how these have conquered the world. In 1989 I built the 5 000 S mobile unloader prototype and in 1990 we delivered the first of these. So I have been there from the delivery of mobile unloader number 1 and for the more than 100 units that have followed.*

*Competitors try to copy us, but so far without success. This is the best evidence that we are a world leading manufacturer of screw-type ship unloaders.*

**First assembly abroad**

*In 1980 I arrived in Jeddah, Saudi Arabia. I was only 22 years old and this was my first assignment outside Sweden. I was part of a crew assembling a Siwertell ship unloader, including four sets of 30m vertical screw sections, onboard the floating terminal, Red Sea Cement, an old, converted oil tanker. We had some difficulties at first with the assembly but managed to sort everything out and were able to finish the job successfully.*

*The floating terminal, now named Golden Arrow I, is still in operation, and I have*

*heard that this unloader has now operated for around 140,000 hours.*

**Seeing the real thing**

*At the start, the two founders of Siwertell – Olle Siwersson and Gunnar Tell – were working on an invention for the agricultural industry; a large yellow wagon with one axle pulled by a tractor. It had a small 2m vertical screw sticking up on the back of the wagon. The idea was to spread fertilizer over a large area by having a big steel disc on the top of the vertical screw. But to make it work, Mr Siwersson and Mr Tell needed to devise a system to control the flow of material to the vertical screw. It started with the idea of a ring that rotated with the screw – and progressed to a devise that rotated counterwise to the screw. This was when the vital new invention was born: the Siwertell screw conveyor with an inlet feeder. This was the beginning of the Siwertell story.*

*In 1985, I remember seeing this yellow wagon myself, with the screw still on the back. It was pulled out from one of our old warehouses to be sent to the dumpster. It was quite extraordinary to witness the real prototype that had started our business.*



Catella (Sweden) becomes new owner of Siwertell. The company name BMH Marine remains





**Kennet Svensson**  
Senior Mechanical Engineer

**Kennet Svensson began his career with the company in 1982; he has carried out extensive work with material tests, system developments and patents.**

**Good evidence of performance**

*We have been privileged to test materials here ourselves, to get to know as much as possible about them to find out which are suitable for passing through the Siwertell screw conveyors, and which are not. There are not very many that cannot be conveyed, but it has been very interesting, and extremely important, for us to find this out. As well as running the materials through the screw, we have also evaluated the humidity level and other*

*important factors to take into account when putting materials in contact with our steel structures.*

*A US-based company once sent us a batch of fertilisers to test locally. To ensure impartiality, we brought in an external company to do the test. This company discovered that the fertilisers were in absolutely perfect condition when they emerged from the screw. This was a great milestone for us, as we were then able to use these tests as very useful references for new clients. The external company carried out a number of tests on different types of materials and provided us with really good evidence of how incredibly wear resistant and sustainable the Siwertell screw actually is.*

*As time passed, we were unable to carry on using these test results in our proposals as they had become out-of-date. However, by then we had delivered a great many machines to satisfied customers, and their testimonials became our new evidence of the high quality of the machines we design and deliver.*

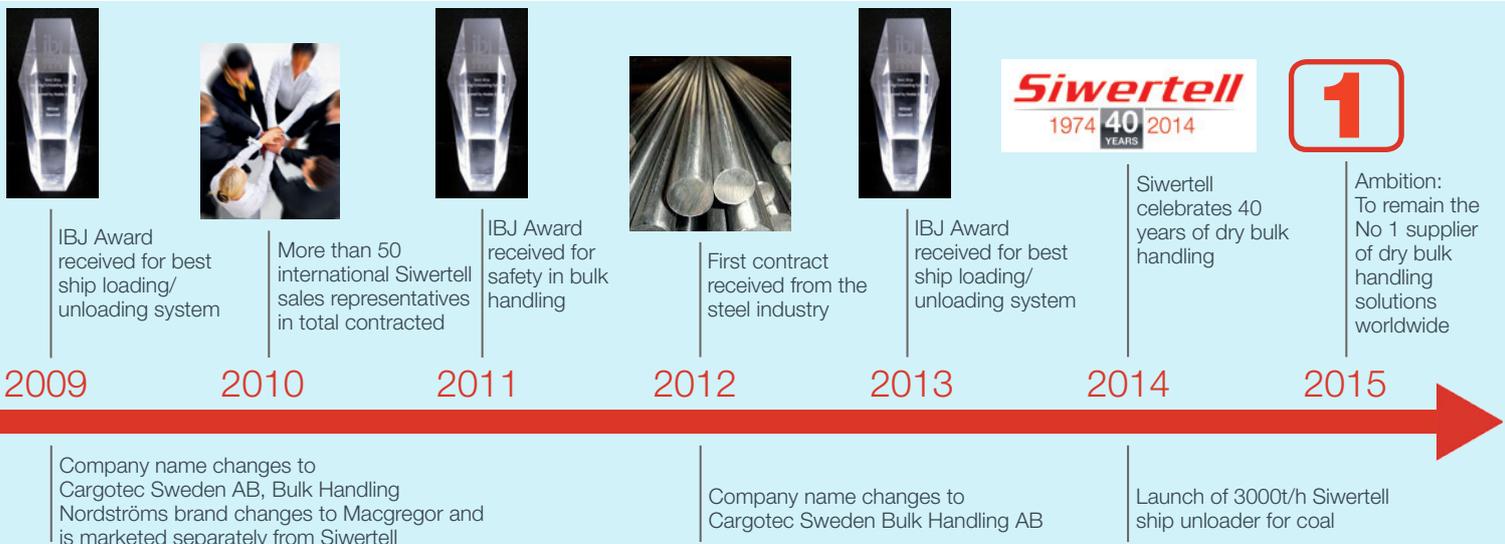
**A sound test**

*We were asked to do an unloading test on olive kernels for a Swedish company.*

*The reason for the test was not to find out whether the Siwertell screw could handle the material; rather it was a sound test to see if the machine could be placed in central Stockholm in an inhabited area. The test was very successful and the company ended up buying a Siwertell ship unloader from us. Sound tests are becoming more common now as environmental regulations in ports worldwide are getting stricter. Siwertell unloaders and loaders can be designed to fit in with any type of surrounding area. Another perfect example is the Siwertell coal unloader installed in central Frankfurt, Germany. People are sipping coffee just a stone's throw away; there are offices and apartment buildings, restaurants and a hospital right next to the unloader.*

**Recent results**

*Bio-pellets and wood chips are becoming increasingly used in power stations; often as a result of government requirements to replace coal in energy creation. Consequently we have carried out a lot of tests with these types of materials, again with very successful results. The market for biomass unloaders is expanding quite rapidly due to new regulations, which is why we have developed the ideal solution*



for unloading of biomass materials.

Our latest installation is at Dong Energy in Denmark – an unloader that handles both coal and bio pellets outstandingly well.

## Memories of product development

I remember back in the 1980s when we delivered the first ship unloaders that could handle coal at 800-1000t/h; I was thinking that these were great capacities, some of the best worldwide, and we were all so proud of the achievement. Since then we have developed the screw substantially and this year we are launching a brand new unloader with a capacity for coal of up to 3,000t/h. Back then this would have been an impossible concept, but we have always been ahead of the times, developing in anticipation of the market's needs. The funny thing is that now, 25 years later, we are still the leading company with the highest capacities for coal – and other materials – with screw-type unloaders.



**Lars-Eric Lundgren**  
Sales Manager

Lars-Eric Lundgren started working in the Siwertell factory in 1974. He has worked as an Assembly Supervisor, Project Manager/Purchaser and Sales Manager for various regions worldwide.

## A memorable job performance

There are many memories to choose from; however one of the strongest is when two colleagues and I were going to install a Siwertell ship unloader, including some other terminal equipment, at Ras al Mishab in North East Saudi Arabia in 1977. The location was absolutely in the middle of nowhere, with just sand on one side and water on the other.

The temperature was between 45-55°C every day with no shade anywhere. Our tools were a big hammer, one large and one small screwdriver, a grubber, three adjustable wrenches and a 5m-long measuring tape. We also had a welding machine and a compressor. This was all we had to put together the 200-tonne unloader, a longitudinal shore belt

conveyor, two silo screws – and one was about 50m-long in one piece – along with all the distributing screw conveyors on top of the silos. We did manage to install the unloader and it's still operating successfully to this day.

## Biggest successes

In my opinion, one of our biggest successes is that we have all been part of a fantastic team throughout the years. We started from scratch with a genius idea on a piece of paper and today we are delivering the biggest ever ship unloaders which are really well developed. Another success for Siwertell was during the cement boom in the Middle East between 1981 and 1984 when we delivered no less than 18 Siwertell unloaders installed on board floating cement terminals.

Individual products have been great successes. We designed the F-type Siwertell unloader (one of the three main types of unloaders that we offer) and sold the first one in 1987. Since then, 65 more F-type unloaders have been sold. We designed the first road-mobile unloader in 1991 and we have sold more than 100 of them to date.

## Siwertell in five years

If we continue in the same efficient way as we have done until now, and with all the new developments on the way, I believe we will grow even more with new markets and materials. The competition is strong within this business, but with our innovative thinking and long experience we will continue as a leader with the Siwertell technology in dry bulk handling worldwide.

# An inventor's story

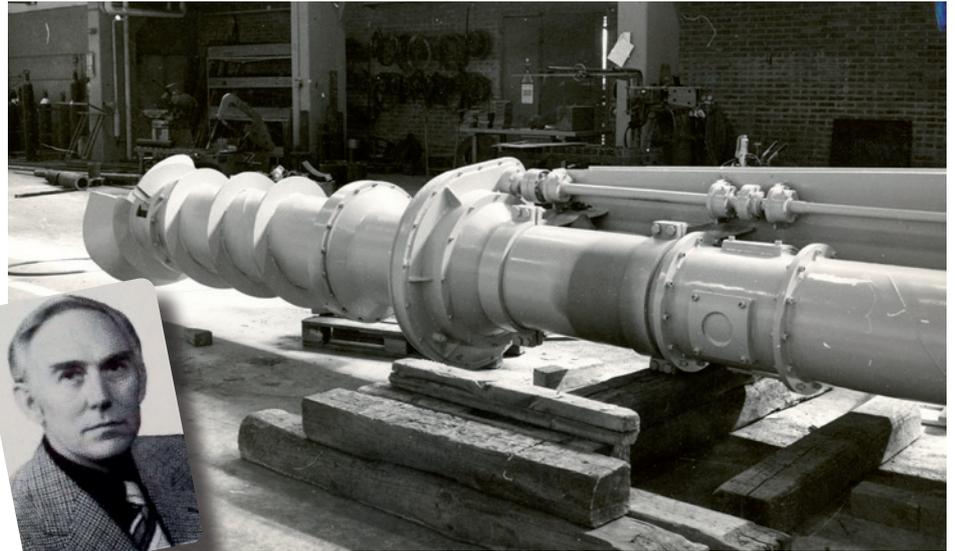
The success of Siwertell screw conveyor technology is based on its unique, patented inlet feeder, designed and developed by the two Swedish inventors, Olle Siwersson (right) and Gunnar Tell, who combined their surnames to give the brand its famous name.

Although their initial work was aimed at the agricultural market, the potential for ship unloading applications was recognised and in 1974, the Siwertell ship unloader was born, along with the company AB Siwertell. Initially situated in the village of Åstorp in southern Sweden, the company later moved to its present location in Bjuv, only a short distance away.

In 1981 Mr Siwersson talked about his love of invention and how the Siwertell screw was developed. "Maybe I was born an inventor," he said. "As far back as I can remember I have been constructing different things. I have always had a driving force in me, looking for technical problems and then trying to solve them. But I have learned that you need a whole lot more than this creativity to succeed and live only off your inventions."

For Mr Siwersson, the turning point came with the Siwertell screw. He explained how it all happened, beginning by recognising that screw conveyors are not new in any way; they have looked much the same since the days of Archimedes.

He said the disadvantage of the traditional screw conveyor is that it requires a lot of energy and it is difficult to feed dry material into the screw. "So then I had this idea,



what happens if you counter rotate the housing against the screw?" At first he made a working model, but before he could progress to ship unloaders, he needed to try his ideas on something larger.

He decided to install a screw conveyor at a 20m-high rape seed silo in Helsingborg where he lived. Lantmännen, the Swedish grain production company that owned the silo, did not agree to the test, but that did not discourage Mr Siwersson. "I managed to sneak in anyway and climbed around on the walls inside the silo to build the Siwertell machine; I actually had to make a hole in one of the silo walls. If they had discovered me, I am sure they would have called the police."

After some hard work, a 20m-high Siwertell conveyor stood ready inside the silo. Mr Siwersson invited the Board of Lantmännen to come and see how 80 tonnes of rape seed could be conveyed each hour through a 130mm tube.

Not surprisingly the installation was approved in retrospect, and an order for a similar system was placed for Landskrona

harbour in Sweden. The story of Siwertell's enduring success had begun.

In summary, the counter-rotating inlet device developed by Mr Siwersson has four main functions:

- digging and loosening packed material in the ship's hold
- gathering material from the hold and feeding it into the screw
- preventing material from being thrown out of the screw during feeding
- minimising dust creation by taking material from below the cargo surface and reducing the risk of avalanches.

Olle Siwersson (1927-1989) had a wide range of interests, including making films of the natural world. He applied his inventive nature to everything he did and he was the one of the founders of Scaniainventor, the Swedish professional inventor company. In 1985 he received a gold medal as an award from the Swedish Science Academy for his 'invention work being technically rich on ideas', and in 1989 he received the Polhem award for his invention of a specially designed belt conveyor. ■