



Cruise ship design visionary

Harri Kulovaara's accomplished international career traces the development of the cruise industry over the past forty years. His skills as a naval architect and "realistic visionary" have equipped him to take on some of the most challenging projects in the history of the sector.

Generations caught up with the guru of cruise ship design at Royal Caribbean's offices in Miami for a chance to gain insight into the origin of his passion for all things maritime and to share his insider's view on the industry going forward.

The black sheep

Some have described Harri Kulovaara as a "typical Finn" in his outlook on work and life. He reflected on his background and on how he broke family tradition for his love of the sea.

"I am a typical Finn, proud of my roots, but I have also worked and spent a lot of time in international settings. I think I have inherited some of the innovative Finnish mindset. We can be quite determined, quite focused, with a healthy sense of risk taking and an ability to innovate and look ahead. I think this is part of my DNA.

My passion for naval architecture and cruise ship design can be traced back to my youth in the Turku archipelago in the southwest of Finland. I enjoyed both leisure and competitive sailing and made a strong connection with the ocean and nature. To become a better sailor, I studied the mathematics of aerodynamics, sails and hydrofoils. When this turned into a fascination, I decided to study naval architecture.

When I chose this path, I became the black sheep of the family: my father was a lawyer, my brother was a lawyer and I became the only engineer.

As I began my studies, the Song of Norway was under construction in Finland. She was the starting

point for Royal Caribbean and the first purpose-built cruise ship. I was able to see her at the outfitting pier from my classroom – her lines, shape, bow, funnel and the Viking Crown Lounge all inspired me. Who could have foreseen that one day I would be part of the team designing these kinds of ships?"

One percent vision, 99 percent hard work

Widely known for his skill in managing huge projects, some with almost a hundred engineers working simultaneously, totaling a million engineering hours, Kulovaara knows what is needed for success on a large scale.

"It comes down to vision and understanding. An enormous amount of passion, energy, intuition, and an understanding of what can and cannot be accomplished.

These projects take a tremendous amount of coordination, so you also need management skills. But I would say that overall it is 1 percent vision and understanding, 99 percent very hard work. They are team efforts involving hundreds of people, huge numbers of design hours and management teams with experience built up by working on smaller, less complex ships. They also rely on long partnerships and deep traditions.

It is an evolutionary process. You have to use the technical insight gained from how earlier ships behaved and what the guest experience was, as well as examine operations and technology. Look at the growth of the Royal Caribbean ships, from Song of

Harri Kulovaara is executive vice president, Maritime, at Royal Caribbean Cruises Ltd. He has pioneered and led some of the highest-profile projects ever undertaken in the cruise industry. An early love of sailing was the springboard for his career.

Born in Finland, Kulovaara graduated as a naval architect from the Helsinki University of Technology before spending three years with Lloyd's Register in London. After returning to Finland, he worked for the Finland Steamship Company and Silja Line, involved in building the early "cruise ferries" *Finlandia* and *Sylvia Regina* and designing revolutionary vessels such as *Silja Serenade*.

Kulovaara joined Royal Caribbean Cruises Ltd. in 1997 and was appointed executive vice president, Maritime, in January 2005.

My biggest sense of achievement comes from being able to lead the team that is able to create ships on the cutting edge, push development and think for the future.

Norway in 1970, to Song of America, to the mega-class ships at the end of the 80's, leading to Voyager of the Seas, Freedom of the Seas and Oasis of the Seas. Each of these was built on the partnerships and collective knowledge created by going from project to project.

Personally, my biggest sense of achievement comes from being able to lead the team that is able to create ships on the cutting edge, push development and think for the future. All these ships are like my wonderful children, but I am most proud of the team of marvelous minds that creates them."

Customer experience, customer satisfaction

At the launch of the *Oasis of the Seas*, Kulovaara said, "In the end, the value of *Oasis* cannot be measured by cost, size, features, or innovative design. After all, we did not build the largest cruise ship in the world to set the record. *Oasis* is large for one reason: to enrich the passenger experience." He explains why customer experience remains at the core of his vision for cruise.

"We have always said that we are not building to be biggest; we want to provide customers with the best vacation, and that remains central. And I think our corporation is very much built around that idea: a relentless focus on customer experience. That has been a driving force for every ship design. Oasis of the Seas and Allure of the Seas were revolutionary because their size gave us the opportunity to create totally different architectural solutions than with a more traditional vessel.

When we started Oasis of the Seas and Allure of the Seas, we looked at a huge number of designs. The criteria that drove our choices were clearly customer satisfaction and customer experience. These vessels provide amenities, programs, and options that exceed anything on a traditional cruise ship. We had very high expectations and it has been tremendously rewarding to see these ships so well-received by customers. They have exceeded cruisers' expectations.

Another important thing is that we have been able to provide personalized service on our ships. Hardware is important, but the warm, personalized service you can get on cruise ships is even more vital. We have been able to attract very guest-centric staff that provide service with a smile and make sure our customers are happy. We have been very successful at this."





A view from the bridge

Using his background as one of the shapers of the industry through its formative years and as one of its undisputed innovators, Kulovaara assesses the state of the cruise segment today.

"Cruise is a very sound business, with a solid foundation and very good fundamentals. If we look at our customer base, we have baby boomers with more and more leisure time; we have young generation X's and Y's who are very interested in travel, so we really believe that there is a lot of demand for vacations going forward.

Cruising offers very good value for money. Satisfaction rates for our customers and guests are exceptionally high and that is a very good basis. So I believe that cruising has a bright future. I believe the industry is going to continue to grow at a slightly more moderate rate than in the past. It has reached a 40-year maturity stage and is now a substantial industry in the Caribbean, Europe, the Mediterranean and other areas. And we see that cruising is now picking up quite a bit in the Far East too.

I think that we will see the world facing financial difficulties for several years before returning to prosperity, but we still feel that cruising is a very good place to be.

In order to thrive in difficult times, we need to continue doing what we have been doing: keeping the cruiser in focus and making sure our product serves in every possible way to increase customer satisfaction.

I think cruising has some very powerful competitive advantages. We have been able to develop our product to achieve higher guest satisfaction than many other industries. We are more cost-effective than other industries. I think that we can provide better value for money than other forms of vacation, and all this is created by innovative technology.

Take fuel efficiency. We have been working on this for 20 years and we are very proud of our results. By partnering with some of the best minds in the world, such as at ABB, shipyards and engine manufacturers, we are constantly evolving the technology. This gives us the chance to lower our energy and fuel consumption and at the same time raises our environmental performance.

Azipods are a good example; they have extremely good fuel efficiency. When we built Voyager of the Seas, the Azipods increased its speed by one knot, which converted into fuel efficiency provided a saving of around 10-15 percent compared with conventional propellers, as well as lower emissions."



Evolution never stands still

We all want a peek into the future. Kulovaara adopts a “helicopter view” to identify trends in innovation and customer demand that will impact the cruise industry going forward.

“We see a constant evolution in both technology, allowing us to learn and become smarter operationally, and customer preferences that drastically impacts ship design and service on board.

With new regulations coming into effect, we need to look at everything. We need to see how we can improve the safety and sustainability of our operation to reduce our footprint. New building standards for future vessels are welcome, and our ships have tried to push the envelope in every aspect. We believe that it is our responsibility to use technology in the best way, and we have tried to adopt new regulations in advance, becoming the benchmark for what technology can accomplish. With a tradition of being a front-runner, we feel that it is positive that the regulatory framework is progressing. Our aim is to go beyond compliance.

New ships will be very different, providing new services and sailing into new areas with greater comfort. But when it comes to architectural solutions,

I think that Oasis of the Seas and Allure of the Seas represent a major step, and it is probably going to be difficult to see similar opportunities that will change things radically ahead.

Customers are constantly looking for more options: more variety, more exciting things in every area. That goes for dining options, entertainment, pool decks, open deck activities and so on. Cruising is very much a family vacation, so we focus on how to make sure that children, parents and grandparents all have a great time on our vessels.

Gearing up for the future is really about trying to imagine the needs of all three generations and how they can be met on board. We need to make sure we follow customer preferences and constantly adapt our vessels to stay on the cutting edge of cruise development.”