

TRANSNYTT

NR. 2 | 2016 | ÅRG. 39



**Ship of
the Year
2015:**

Trans Catalonia

**Trans
Catalonia**
on River Yangtze

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**It makes
us better**

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Have a safe SUMMER

Seatrans has had a very good and stable operational performance for many years.

This does not come easy and it is owing to the hard work of all our crews. I also believe another main reason is our continuous efforts to improve and adapt to new requirements and challenges. If we do not improve, our performance will deteriorate over time. We cannot accept this and hence the Seatrans Core Value: "Innovation" – we change and improve.

We can read about the positive effects of vetting in this issue of TransNytt. This is customer recognitions we all shall appreciate, and I am proud of the level we have achieved. This places us among "the best in class" within the chemical trades, which again is a great commercial advantage.

I will also like to congratulate the crew of "Trans Catalonia" with the ship of the year award. This is very well deserved, after many years with high operational performance and a very motivated crew. It is also comforting that we have most of our ships at the same high level, so it is a close race every year. I wish everybody a sunny and safe summer.

Kind Regards
Lars Helge Kyrkjebø

Content

Cover photo:
Proud crew: Trans Catalonia won the Ship of the year award 2015.

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SEATRANS SUPPORTS SAFETY AT SEA

Seatrans has prolonged its sponsorship of Redningsselskapet for a period of five years. "Safety at sea is mandatory for all our work. By supporting Redningsselskapet and their rescue boat RS Bjarne Kyrkjebø, we are displaying our strong commitment to safety at sea to our local communities. In addition, our office staff can take advantage of the courses provided by Redningsselskapet for owners of sail boats and cabin cruisers, who aim to get a licence to use these kinds of vessels – and who want to learn how to handle their boats safely and help ensure safety at sea for themselves and other boaters."



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Ship of the Year 2015: TRANS CATALONIA

As in previous years, the SOTY nomination committee had a hard job to evaluate the various factors on all the vessels in the Seatrans fleet before they concluded on the 2015 winner. However, Trans Catalonia was the best vessel in this prominent class. Here are the favourable arguments for the nomination:

- Vessel's performance has been among the best for several years.
- Safety reporting and safety awareness are at a high level.
- Vessel's technical condition is very

good and is demonstrated by having CAP 1 rating from DNV GL.

- Vessel's budget performance is good.
- Vessel's performance related to vetting and inspections is very good. Trans Catalonia is one of the vessels with most inspections in our fleet.
- Vessel's operational performance is very good. The crew has a high awareness related to speed and consumption.
- Trans Catalonia has demonstrated improvements related to crew stability and working environment.

"The SHIP OF THE YEAR award recognises unique performance in our fleet. Like previous years, several vessels have been considered, and the competition seems to be stronger every year. The fleet performance in 2015 was very good. What made Trans Catalonia unique is the high performance demonstrated over several years! Keep up the good work and aim for the prize in 2016. We extend our congratulations to the whole crew of Trans Catalonia. Well done!" The press release was signed by Lars Helge Kyrkjebø, Johan Gustav Hvide and Gisle Kårbø Rong.

YES we made it!

"Knowing we have been almost there earlier, of course we had our hopes. However, when you see it "black on white" that we finally made it, we all say YES!!! We all became very happy but proud too, since we know it is a fierce competition," says Captain Joachim Rubin on Trans Catalonia.



The jury emphasized, "what made Trans Catalonia unique is the high performance demonstrated over several years!" Now, I guess this has something to do with a kind of commitment among the crewmembers – a kind of decision taken to improve?

"I must say we all work very hard and take pride in having the vessel on top when it comes to performance in all aspects and her condition. Remember, she is our second home. This does not come for

free. It takes hard work, knowledge, skill, good colleagues (and a little support from the shoreside...) and of course that you manage to get all these things working the same way. I think the good working atmosphere on-board Trans Catalonia is one of our strong assets. A laugh extends your life, they say. So we'll be here for long!"

What is it like to be a crewmember on Trans Catalonia – maybe compared with others vessels you and other crew members have been sailing with (no names mentioned..)?

"Trans Catalonia for us is like a second home. I mean, we do spend half of the year here, on-board and all of us have been here for quite some time. It is only natural that it becomes a friendly environment after a while, because we create it. Somebody once said, that "it is the people who makes the place to

be what it is" and this fits us like a glove," Rubin continues. "Being a crewmember of Trans Catalonia is challenging, but somehow feels the right place to be after a while."

"Yes, it is a high standard to maintain all the time. However, that is no news for the crew here, as we have never made any differences. It has always been like this and probably never change. To me that's because people on-board this vessel made it look so easy to achieve it, although job here is demanding and work volume is very high. Additionally, if you look at the results, you will see they speak for themselves. This "Vessel of the year award" is not a surprise, says Chief Officer Branisteanu.

Have you decided yet what you will use the prize award for?
"No decision have been made regarding the prize, but that's an easier "problem" to solve!

Positive effects of vetting

”Ever since we started to acknowledge the data from the vetting reports years ago, we have improved our performance, learned a whole lot and have achieved a company culture that rewards quality. Over the years, our attitude towards vetting has changed dramatically, from rejection to appreciation. Now, even if some vettings can be tough, we have reached a company standard that exceeds the requirements of both the CDI and the OCIMF SIRE.

We operate in a demanding business climate and the goods we move are both very valuable and partly hazardous. We simply have to be among the best in the class,” says Knut Havn, who has sailed as Captain for many years, and now holds the position as QHSE & Marine Manager in Seatrans Ship Management. Vetting – for many players in the shipping business, the word gives them goosebumps. This is also true at Seatrans, as we enter a new decade. No one likes to have someone walking around to see if your place of work is in shape and in compliance with a standard set by others. A vessel is a place of work but also a home, and it can be uncomfortable when someone from “the outside” comments on your “home” environment. On the other hand, safety is a mandatory condition for being in the shipping business, for both chemical tankers and cargo vessels. Knut Havn confirms that the outcome from numerous vettings has been favourable for the Seatrans fleet over the years. “We have seen a remarkable reduction in the number of remarks under both CDI and OCIMF SIRE regimes. The average number of remarks on our vessels reflect minor observations by the inspectors. The CDI regime has three categories of remarks: Statutory, Desirable and Recommended. If you get more than three remarks in the first category, the vessel might be refused more work. Even remarks in the “Desirable” category are very undesirable. However, most of the remarks we get are in the two latter categories and we do our best to get our vessels into compliance with remarks at these levels as well.”

For the sailors, vetting means a lot of work and stress regarding the vessel, navigation, cargo and processes. For those not familiar with the vetting, here is an explanation:

All demanding clients in the shipping industry want their goods to be treated correctly and safely. However, clients cannot run around inspecting every vessel they want to use. Instead, they organise themselves and share their impressions of the fleet in databases. The ship owners have to pay for and arrange the inspections.

Knut Havn explains: “All parties involved want to use as little time on inspections as possible. On the other hand, the inspectors want to see how critical procedures are performed. For a chemical tanker, this means discharging because this requires use of the critical equipment on board, such as pumps, tubes and so on. This is a critical part of all the operations involved in chemical cargo handling. Therefore, we have to

arrange vetting when the vessel is discharging in a suitable port. The vetting starts in the Captain’s office where all certificates and documentation are reviewed. After that, the inspector is free to choose where to go and look – on deck, in the wheelhouse, in the engine room, in the cargo control room. The inspector will often have a Q&A session with the Captain, Chief Officer, 2nd Officer and others who are involved with the cargo. The inspector will ask about planning routines, processes and cargo operations. Commonly, the inspector will take a walk on deck with the Chief Officer to look for cargo spills, oil spills, to check that all the equipment is in order and so on. “Even the ropes have to be in accordance with certain standards. Sometimes the pipes are tested and put under pressure to make sure they are in a good condition. On average, a vetting takes eight hours, and sometimes more. After the inspection and Q&A session, the visit ends in the Captain’s office where the inspector gives a preliminary report. If the inspector has made any serious observations, he will report these immediately. Also “Desirable” and “Recommended” improvements will be reported in the Captain’s office. Back at his own office, the inspector will prepare a written report, and the report follows the vessel – even if the remark is related to a wrong answer from one of the staff on board. This could be seen as unfair, but it is the Company’s responsibility to have staff on board who have all necessary knowledge.

Nonetheless, the owner of the vessel receives the report from the inspector and has the opportunity to respond to it before the final report is published. This allows the owner to comment ‘incorrect observation’ or ‘corrective action taken;” Knut Havn sums up.

The **average** number of remarks **on** our **vessels** reflect **minor observations** by the **inspectors**.



Makes us better: Vetting regimes have made us better and improved our quality all over, says Knut Havn.

Facts

Vetting

Two codes for vetting (inspections) dominate the market. The word itself originates from horse-racing, referring to the requirement that a horse shall be checked for health and soundness by a veterinarian before being allowed to race. The word has therefore taken the general meaning of "to check".

Inspectors are either located nearby actual ports or travel all over the world to perform the inspections, which have an average duration of eight hours. While OCIMF SIRE and CDI focus on both vessel and cargo, a PSC focuses on the vessel alone.

OCIMF SIRE

This is a procedure introduced by the Oil Companies International Marine Forum (OCIMF) in 1993 that launched their Ship Inspection Report Programme (SIRE). An OCIMF SIRE report and certificate is valid for six months.

CDI Inspection

This is promoted by the Chemical Distribution Institute (CDI), which is a non-profit making foundation located in the Netherlands. A CDI report and certificate is valid for twelve months. In Norway, three inspectors are qualified to inspect any chemical vessel in accordance with the CDI requirements.

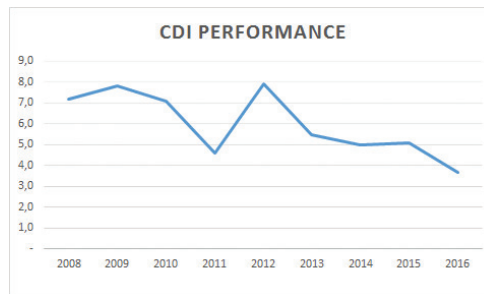
PSC

A Port State Control (PSC) is the inspection of foreign ships in other national ports by PSC officers (inspectors). The purpose is to verify the competency of the master and officers on board, and that the condition of the ship and its equipment complies with the requirements of international conventions (e.g. SOLAS, MARPOL, STCW, etc.) and that the vessel is manned and operated in compliance with applicable international law. The PSC rules depend on regional origin; Europe, Latin-America, China and Far East and so on.

Seatrans Ship Management has an open approach to vetting results. The number of remarks for the Seatrans fleet is showing a downward trend. However, Knut Havn is not satisfied. "Even if our vessels are above the required standards, we still get input from the vetting reports on how we can improve. All the remarks on "Desirable" and "Recommended" improvements are discussed and processed."

The "vetting culture" at Seatrans is something that has been developed over years, Knut Havn explains. "A successful vetting is a result of many years of hard work by the crew on board and a good dialogue between the vessel and the staff here at the Marine Department. Earlier, we had to take a "skippertak", which is a Norwegian expression from the maritime world where you work hard and in a hurry in order to improve – and impress someone. This is neither an admirable nor a wanted attitude. Over the years, I have witnessed the impressive improvement in the skills and performance of our seafarers. We operate our vessels in a 'vetting mode', which means we have to operate with better equipment and with processes and skills that are beyond the requirements any vetting inspector has in his book or bears in mind. That reminds me of rule number one: First impressions

are the most important. These start with the gangway and how we welcome the inspectors on-board. You cannot pull the wool over an inspector's eyes, but it helps to make a positive first impression for the vessel and the crew. We are all humans, even a vetting inspector!"



▲ **Positive trend:** Total number of remarks per vessel in average.

PREPARATION and attitude

“It is very much a question about first impressions and a proper reception. If the vessel looks nice and the inspector is greeted professionally at the gangway, it’s a very good start for a vetting,” says Chief Officer Lucian Rusanu on Trans Catalonia.



◀ **Well-prepared:** Chief Officer Lucian Rusanu has been through a number of vettings. “If you prepare well you have nothing to hide. A vetting is nothing to fear then.”

Lucian Rusanu is one of the well-experienced officers in Seatrans and has been through a number of vettings. TransNytt talked with the busy officer while the vessel discharged chemicals in Terneuzen, the Netherlands. Trans Catalonia is on the Far East trade (see page xx about the voyage up the River Yangtze) and the crew is used to long voyages. However, the vetting/inspection procedures are the same and Trans Catalonia is “used to have successful vetting/Inspections,” Captain Joachim Rubin explains.

“The most important part is the first impression,” Rusanu continues. “If the inspector is greeted professionally at the gangway, handed over basic information about operations, primary emergency procedures and so on, it is our impression that we have established a positive platform for the rest of the inspection. The vessel certainly has to be clean, tidy and well maintained, and this has a high focus among our crew. So we take great pride in hearing

frequent positive feedback from Inspectors, pilots etc. regarding how the vessel looks, despite her age.

“Of course you need to pay close attention to the inspector during the entire process, assist and take action immediately if extra information is needed or something in his opinion should be corrected.

“Also the small coffee breaks we have are important for exchanging experience, input and of course some jokes to lighten the atmosphere.

“Most Inspectors are helpful and actually like to share their information, give suggestions etc. so we keep a good dialogue with them.”

“You often hear stories about vetting inspectors who behave suspiciously and ask tricky questions. What is your experience, Rusanu?”

“I have never met that kind of inspector! Take the last vetting we had. We were

inspected by a guy from India, and he was very friendly and we communicated very well. There are different kinds of inspectors – they are humans just as us. But if you have prepared the ship and crew well, have the papers ready that you know he will ask for, there is nothing to worry about.”

Captain Rubin agrees. “You have to be well prepared and be honest about things. If an inspector finds something, yes most of them are old sailors who know where to look, it’s usually corrected on spot if possible. It’s in our own interest as well to have things in a flawless condition, and in the end we’ll always talk through any remarks. However, the inspector also has a job to do so when you get a remark you have to take it, even though you might disagree sometimes.

“An Inspection is a teamwork that involves the whole crew, that’s the key to our success.”



List of topics:

- *Fall accident (Seatrans)
- *Dry-cargo operations (Seatrans)
- *Mooring (Shell)
- *Anchor awareness (Gard)
- *Vessel collision (Shell)
- *Fire in engine room (Shell)

◀ **Reflective teacher:** We hope to motivate the crews to discuss “how we are doing things around here” and learn and be even more aware of what best practise shall be, says Jan Andreassen.

Read, reflect, discuss AND LEARN

Reflective learning is an invitation to stop for a while and think over what might be answers, and what is the correct answer to the questions raised.

▼ **Officers in training:** On Officers assembly, the method of reflective learning has been in use. In groups they discuss what is the best and optimal solutions to various topics.

“We got the idea from our client Shell. The idea is rather simple but the outcome – if you use this as a training tool – is very good. The idea is to raise questions that are relevant to seafarers be it on a chemical tanker or a cargo vessel. Some questions might be very easy to answer, others you need some time to think it over: “Yes, what is the correct reaction if so and so happens,” Jan Andreassen at Seatrans Ship Management explains.

From his desk, Jan Andreassen writes down his ideas about ordinary safety issues his colleagues at sea meet during the seasons. In letters to the ships, he challenges the crew on-board to sit down

in groups and discuss. However, loader than words is visual illustrations of the dilemmas. Pictures are always used. And occasionally, small videos are recorded on-board with Seatrans crew as actors, to illustrate the point.

“I hope to motivate the crew to take a step back and think “how are we dealing with this here on our vessel?” The videos we make lasts for maybe 20-25 minutes and we put in a number of questions that definitely can be discussed. The videos are sent on memory sticks. It is rather heavy files, so we cannot distribute the material through downloading,” says Jan Andreassen.





Trans Catalonia on River Yangtze

”It is like a down town traffic jam without traffic light”

Manoeuvring among thousands of vessels and barges, the crew on Trans Catalonia work with high pulse and a pilot using a ship whistle to communicate with the small barges nearby on the famous River Yangtze. TransNytt has got his report from Captain Maciej Zielke from his last journey from Europe to China.

“As usual, we started our voyage in Antwerp in the Netherlands and Gonfreville, close to Le Havre in France, loaded with LPG and various chemicals. We headed towards The Far East with destinations as Korea, Taiwan and finally China on our list.

We passed Suez and later the Gulf of Aden with guards on-board. Later we passed the Malacca Strait and China

Sea with its uncountable fishing vessels. However, this was only a smooth start compared with what waited us ahead. Our main event was the Yangtze River. This river is the busiest shipping place many of us have seen. There are over 67,000 vessels per year using the pilot service on the Yangtze. It is impossible to count the number of the domestic fleet of vessels and barges crossing and sailing up and down the river.

Already one day ahead, we can see that we are close to the River Yangtze. The colour of the sea changes to yellowish and the strong current slow our speed as much as three to four knots. The traffic gets denser too. Finally we are there. We have planned to reach the pilot station just before dawn. If we arrive later, we have to wait for another day at one of the numerous areas for anchoring. Going without pilot is not



allowed for sea going vessels. Be sure, I would not have taken the chance anyway, considering the extreme traffic here.

After we have got the pilot on board, we are ordered to line up with a number of other vessels that are entering the river. Just as we enter the river, we can see Shanghai with its modern buildings, skyscrapers and port. For us this is where the "fun" begins. There are vessels and barges all over the place. You may choose from large vessels to small barges, wooden or steel hull. To me it looks as if all the floating devices in all China are gathered here in the same river. The thing is that many of these small ships are supplying the sea going vessels in ports with cargo and stores as well as cities and shipyards located on both sides of the riverbanks. The image is the same for miles. Seeing this, we stop wondering about the fact that most of the products and goods we consume at home are made in China...

We have to watch carefully. All these ships that passes and are crossing around us, changes their courses unexpectedly. It looks like any big city street during rush hours without any traffic lights. Except for our eyes, the most important equipment is the ships whistle. Without this, it is impossible to communicate with most of the barges because the radio channels are literally occupied all the time. Officers and helmsmen must stay focused continuously and be ready to act for the unexpected manoeuvres from other

vessels. In the engine room there is full attention and readiness too as the rapid and unexpected changes happen all the time here. Our heartbeat is on a steady peek.

Finally, after twelve hours on the River Yangtze we arrive at our terminal and shortly after port clearance we can start loading the vessel with new cargo. The loading went smooth and easy thanks to the skilled and well prepared crew and good cooperation with terminal.

This time at Yangtze we can consider ourselves to be the lucky ones. The weather was good. We had no fog or rain during the river transit. We managed to arrive the terminal just before the sunset. That allowed us to complete loading early in the morning the next day and be able to depart as soon as the first daylight arrived. We even had a favourable current so we could reach the sea in the evening. Therefore, we had no time lost at anchor and we could head up back to Europe fully loaded with cargo."

Editor's note
Captain Maciej Zielke followed Trans Cataonia on her voyage from Europe and back again in March to April.

Facts

River Yantze (The Long River)

- is 6.300 km long and the third largest in the world
- covers 1,808,500 square metres
- discharges more than 30.000 cubic metres per second in average
- maximum discharge is 110.000 cubic metres per second
- drains one-fifth of the land area of the People's Republic of China (PRC)
- river basin is home to one-third of the country's population.
- source and upper reaches of the Yangtze are located in ethnic Tibetan areas of Qingha



▲ **Lessons to learn:** Reports from the superintendents and quality manager provided a strong basis for discussions at the SCT seminar in Solstrand Fjordhotel.

SCT

– Seminar, Concentration and Teamwork

Once a year, Seatrans Chemical Tankers (SCT) invites all staff members on a two-day seminar. This year, the seminar was held at Solstrand Fjordhotel – a one hour's drive from Bergen – and the aim was to learn, share and develop.

The SCT team: (behind, from left) Ronald Olsen, Gunnar Solberg, Marit Lie, Jonleif Danielsen, Anita Skjelbred, Eva Smaadal (In front, from left) Kjell Løvteit, Frode Nordanger, Jan Remi Litland, Kathrine Bogen, Marianne Gjerde, Liv Kari Askeland, Tom Skare, Reza Massoumi



“Everyone in the SCT team will have a good chance to discuss different matters with their leaders and co-workers around the table together. In the wonderful setting at Solstrand, we hope to gain the perfect opportunity to share our ideas and input from different angles, and finally produce a good outcome. We are a small team and we need to solve any issues that may have been bothering some of us. During our seminars, we also discuss our performance as a team and a company, and we look for new and improved ways to carry out our day-to-day tasks. We are in a very competitive business so we need to be skilled, coordinated and motivated to accomplish our SCT milestones and goals,” says Managing Director Tom Skare.

For the 2016 seminar, the SCT team had a number of topics on the agenda – many of them far from new but still

topics that require improvement. These include:

- A focus on ship operations in general in order to improve loading/discharging while vessels are in port and thereby save time for all parties involved.
- A number of projects for improved efficiency and performance during reporting, cooperation and integration, speed and consumption, tank cleaning, nitrogen purging, and more.
- An update and discussions concerning strategic plans, including COA portfolio and tonnage investments.

“Our colleagues at sea are our best partners, but the office personnel in SCT have to be aware of the implications of our daily tasks for our colleagues onboard the ships – such as planning cargo programmes as well as

coordinating operations for a number of different charterers, products, ports and berths on one vessel and one voyage. Tank cleanliness issues, port turnarounds, prior cargo issues and various KPIs required by our customers and ourselves are all important topics when discussing how to strive for continuous improvement in all aspects of our profession. This way, we constantly work to improve our team’s efficiency and performance,” Tom Skare explains.

“Last, but not least, the seminar provides the perfect opportunity for the whole team to socialise outside the office. After all, we work and spend almost 50 per cent of our lives together, and it is important to get to know each other at another level and state of mind. If we are united, we can perform better as a team.”

Is it possible to improve tank cleaning?

If you think you know it all, it is time to start learning again. Last year, Seatrans Chemical Tankers started a project together with L&I Maritime in the UK to use a UV spectrometer during tank cleaning, and to stop cleaning when the UV samples showed less than 100 ppm last cargo residue in the water.

L&I Maritime have been working for several years to get charterers to accept this method. The only other alternative to determine whether tanks are clean enough for loading products is for a Surveyor to enter the cargo tanks when the vessel is alongside the loading terminal and take a wall-wash test, which is a random test that does not really tell us anything about the cleanliness of the tank.

“Last year, we collected samples of wash water from all of our vessels trading in the Mediterranean Sea. The samples were analysed on board during the cleaning process to find the point where we could stop the tank cleaning process and say that the tank is clean enough to load the next cargo.

“The procedure for sampling and analysis of samples was the same on all vessels. The intention was to see if there was any

difference in cleaning time required in relation to steel surface roughness, tank size or other factors that could have an impact on how much time is required to clean the tanks in different vessels.

“What we discovered during this process was that we are over-cleaning our cargo tanks. Some vessels over-clean more than others. This is also normal as the tank cleaning process is based on own experience on board or the use of various cleaning guides available,” Jonleif Danielsen at Seatrans Chemical Tankers explains.

“Together with the Technical Department in Seatrans Ship Management, we have started the work on creating a tank cleaning database. We can then use this to store all our improved procedures for tank cleaning for various products. By optimising cleaning procedures, we can save on man-hours for tank cleaning and avoid extra tank entry for the crew.

“Our goal for the future is that we can take a wash water analysis of the last freshwater rinse on board and run it through the UV spectrometer. If the result is below 100 ppm last cargo residue in water, the tank is clean. We can send these results to the

charterers onshore, then go alongside and start loading without the need for wall wash tests or surveyors entering the cargo tanks.

“This is beneficial to both our customers and us. We save time alongside the terminals, which are becoming more and more congested in the ports we visit,” Jonleif Danielsen concludes.

The new adjusted cleaning procedures are now under implementation, and all the procedures will be available on a database for the vessels in the future.

“What we discovered during this process was that we are over-cleaning our cargo tanks”

Acetone

Acetone (systematically named propanone) is the organic compound with the formula $(\text{CH}_3)_2\text{CO}$. It is a colourless, volatile, flammable liquid, and is the simplest ketone.

Acetone is miscible with water and serves as an important solvent in its own right, typically for cleaning purposes in the laboratory. About 6.7 million tonnes were produced worldwide in 2010, mainly for use as a solvent and for production of methyl methacrylate and bisphenol A. It is a common building block in organic chemistry. Familiar household uses of acetone are as the active ingredient in nail polish remover and as paint thinner.

Acetone is produced and disposed of in the human body through normal metabolic processes. It is normally present in blood and urine. People with diabetes produce it in larger amounts. Reproductive toxicity tests show that it has low potential to cause reproductive problems. Pregnant women, nursing mothers and children have higher levels of acetone. Ketogenic diets that increase acetone in the body are used to counter epileptic attacks in infants and children who suffer from recalcitrant refractory epilepsy.

History

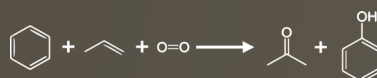
Acetone was first produced by alchemists during the late Middle Ages via the dry distillation of metal acetates (e.g., lead acetate, which produced "spirit of Saturn" (since the alchemical symbol for lead was also the astrological symbol for the planet Saturn)).

In 1832, French chemist Jean Baptiste Dumas and German chemist Justus von Liebig determined the empirical formula for acetone. In 1833, the French chemist Antoine Bussy named acetone by adding the suffix -one to the stem of the corresponding acid (viz, acetic acid). By 1852, English chemist Alexander William Williamson realised that acetone was methyl acetyl and the following year, the French chemist Charles Frédéric Gerhardt concurred. In 1865, the German

chemist August Kekulé published the modern structural formula for acetone.

Production methods

Acetone is produced directly or indirectly from propylene. Approximately 83% of acetone is produced via the cumene process. As a result, acetone production is tied to phenol production. In the cumene process, benzene is alkylated with propylene to produce cumene, which is oxidised by air to produce phenol and acetone:



Benzene+Propylene+Oxygen Acetone+Phenol

Other processes involve the direct oxidation of propylene (Wacker-Hoechst process), or the hydration of propylene to give 2-propanol, which is oxidised to acetone.

Uses

About a third of the world's acetone is used as a solvent, and a quarter is consumed as acetone cyanohydrin, a precursor to methyl methacrylate.

Acetone is a good solvent for many plastics and some synthetic fibres. It is used for thinning polyester resin, cleaning tools and dissolving two-part epoxies and superglue before they harden. It is used as one of the volatile components in some paints and varnishes. As a heavy-duty degreaser, it is useful in the preparation of metal prior to painting. It is also useful for high reliability soldering applications to remove rosin flux after soldering is complete; this helps to prevent the rusty bolt effect.

Acetone is used as a solvent by the pharmaceutical industry and as a denaturant in denatured alcohol. Acetone is also present as an excipient in some pharmaceutical drugs.

Although itself flammable, acetone is used extensively as a solvent for the safe

transportation and storage of acetylene, which cannot be safely pressurised as a pure compound. Vessels containing a porous material are first filled with acetone followed by acetylene, which dissolves into the acetone. One litre of acetone can dissolve around 250 litres of acetylene.

Flammability

The most hazardous property of acetone is its extreme flammability. At temperatures greater than acetone's flash point of -20°C (-4°F), air mixtures of between 2.5% and 12.8% acetone, by volume, may explode or cause a flash fire. Vapours can flow along surfaces to distant ignition sources and flash back. Static discharge may also ignite acetone vapours, though acetone has a very high ignition initiation energy point and therefore accidental ignition is rare.

Even pouring or spraying acetone over red-glowing coal will not ignite it, due to the high concentration of vapour and the cooling effect of evaporation of the liquid. It auto-ignites at 465°C (869°F). Auto-ignition temperature is also dependent upon the exposure time, thus at some tests it is quoted as 525°C . Also, industrial acetone is likely to contain a small amount of water which also inhibits ignition.

Health information

Acetone has been studied extensively and is generally recognised to have low acute and chronic toxicity if ingested and/or inhaled. Acetone is not currently regarded as a carcinogen, a mutagenic chemical or a concern for chronic neurotoxicity effects.

Acetone can be found as an ingredient in a variety of consumer products ranging from cosmetics to processed and unprocessed foods. Acetone has been rated as a generally recognised as safe (GRAS) substance when present in beverages, baked foods, desserts, and preserves at concentrations ranging from 5 to 8 mg/L.

Toxicology

Acetone is believed to exhibit only slight toxicity in normal use, and there is no strong evidence of chronic health effects if basic precautions are followed.

At very high vapour concentrations, acetone is irritating and, like many other solvents, may depress the central nervous system. It is also a severe irritant on contact with eyes, and a potential pulmonary aspiration risk. In one documented case, ingestion of a substantial amount of acetone led to systemic toxicity, although the patient eventually fully recovered. Some sources estimate LD for human ingestion at 0.621 g/kg; LD inhalation by mice is given as 23 g/m³, over 4 hours.

The market

Producers hope that the oversupply of acetone seen in 2015 may be coming to an end. Some point to upcoming shutdowns of major producers in the first half of the year as a key. However,

a new plant in Saudi Arabia is due on stream in the second half of 2016 and could bring ample product supply to Europe with a short transit time.

Acetone demand in Europe is expected to be healthier in the second quarter of 2016. Turnarounds at the end of the first quarter and in the second quarter are expected to re-balance the market to some extent, following a period of oversupply. However, market participants are divided over the degree to which the market can re-balance in the second quarter. Signs of firming prices have given sellers some hope of increasing prices and improving margins.

While acetone supply is expected to remain long in the US, producers continued to seek relief from weak margins on primary product phenol and to address upward movement in refinery-grade propylene.

The upward pressure on CFR (cost

& freight) China acetone prices, from a combination of decreased output and routine maintenance, is expected to dissipate in the second quarter as producers restart their plants from turnarounds. The start-up of two new phenol/acetone plants, operated by Thailand's PTT Phenol and South Korea's Kumho P&B, is likely to exacerbate the regional supply overhang in the second quarter.

The acetone capacity in Europe is first of all controlled by Ineos Phenol, with a production capacity of 425,000 metric tonnes per year in Antwerp as well as a capacity of 405,000 mts in Gladbeck, Germany. Cepsa Quimica can produce 290,000 mts in Huelva, Spain while Versalis is the third largest producer of acetone in Manova, Italy with a capacity of 185,000 mts.

“Acetone can be found as an ingredient in a variety of consumer products ranging from cosmetics to processed and unprocessed foods”

**ANNI
VERS
ARIES**

50 years

**Jonleif Danielsen
Romulus Ionita
Miroslav Biondic**

**13.05.2016
27.05.2016
21.08.2016**

60 years

**Eva Smaadal
Branko Loncar**

**25.06.2016
12.07.2016**

Captain and his mentor:

Terje Ræstad (left) got his PEC in record speed, thanks to Remi Rumian as mentor along the Norwegian coast.

New PEC record

A Pilot Exemption Certificate (PEC) is required for Captains on vessels trafficking the Norwegian coast. However, other officers on the bridge need to have a PEC too if the vessel intends to sail into local waters without a pilot on board. If the Captain does not have a PEC, the vessel has to use a pilot, even if other Officers on board have the required PEC.

It is no easy job to get a PEC, but two Captains managed to get their certificates at record speed with great help from other Officers. This is a great example of how "Officers on the move" and a utilisation of sailing plan options made it possible to help colleagues to get their PEC.

It all started when SC Astrea was moved from wind-turbine operations to the North Sea liner service for Sea-Cargo. As none of her Captains had a PEC, the vessel had to subscribe to the Pilot service from the Norwegian Coastal Administration. The pilots provide a good service, but the costs are significant and use of pilots can decrease speed and disturb a tight timetable.

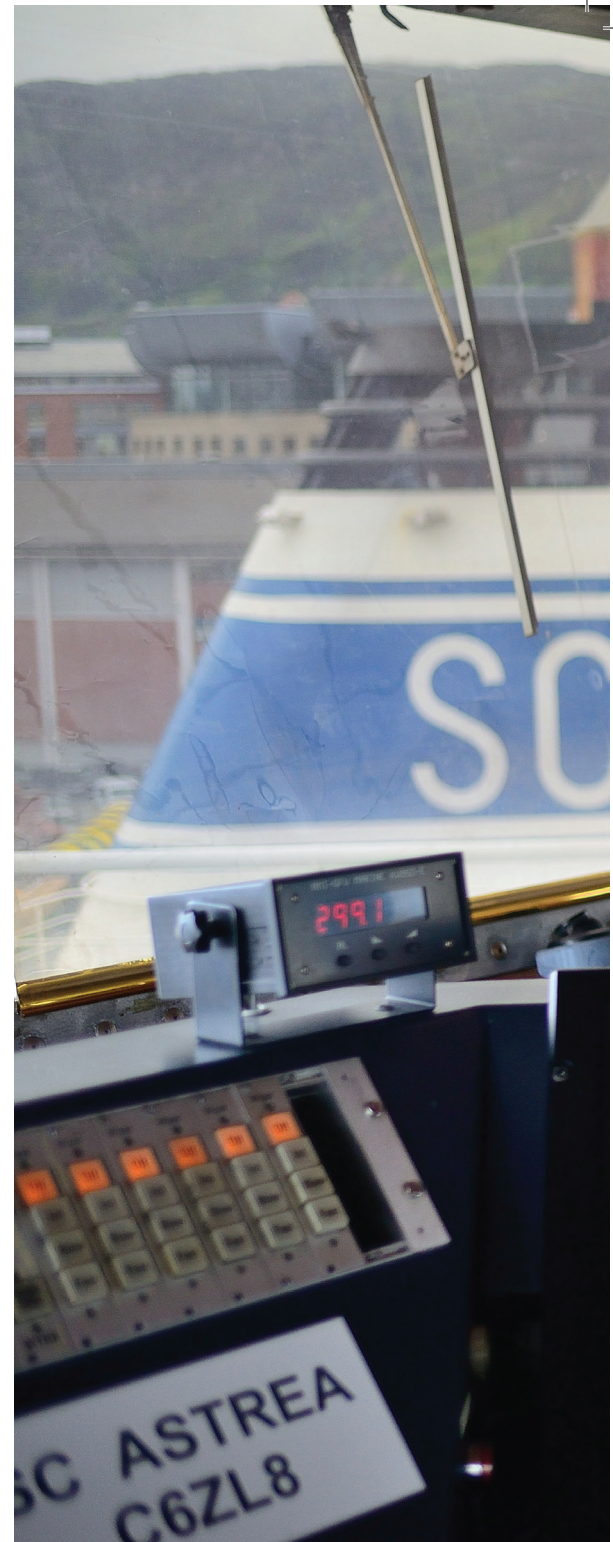
According to regulations, it does not help if the first or second officer has the relevant PEC if the Captain on board does not. However, where there is will, there is a way. Alf-Rune Jensen in Sea-Cargo and Piotr Masny in Seatrans Ship Management explain:

"We got the officers involved and made up a plan together. The two Captains on

Astrea, Odd Terje Ræstad and Zbigniew Stypula, the Chief Officer Remigiosz (Remi) Rumian, Chief Officer Michal Kwolczak and 2nd Officer Wojciech Brenja all agreed to help out and allow the Captains the necessary amount of time sailing in the waters from Tananger to Bergen, ten return trips for each. The Norwegian coast is divided into a number of distances that require either a pilot or Captains on the bridge with a PEC."

What actually happened was this:

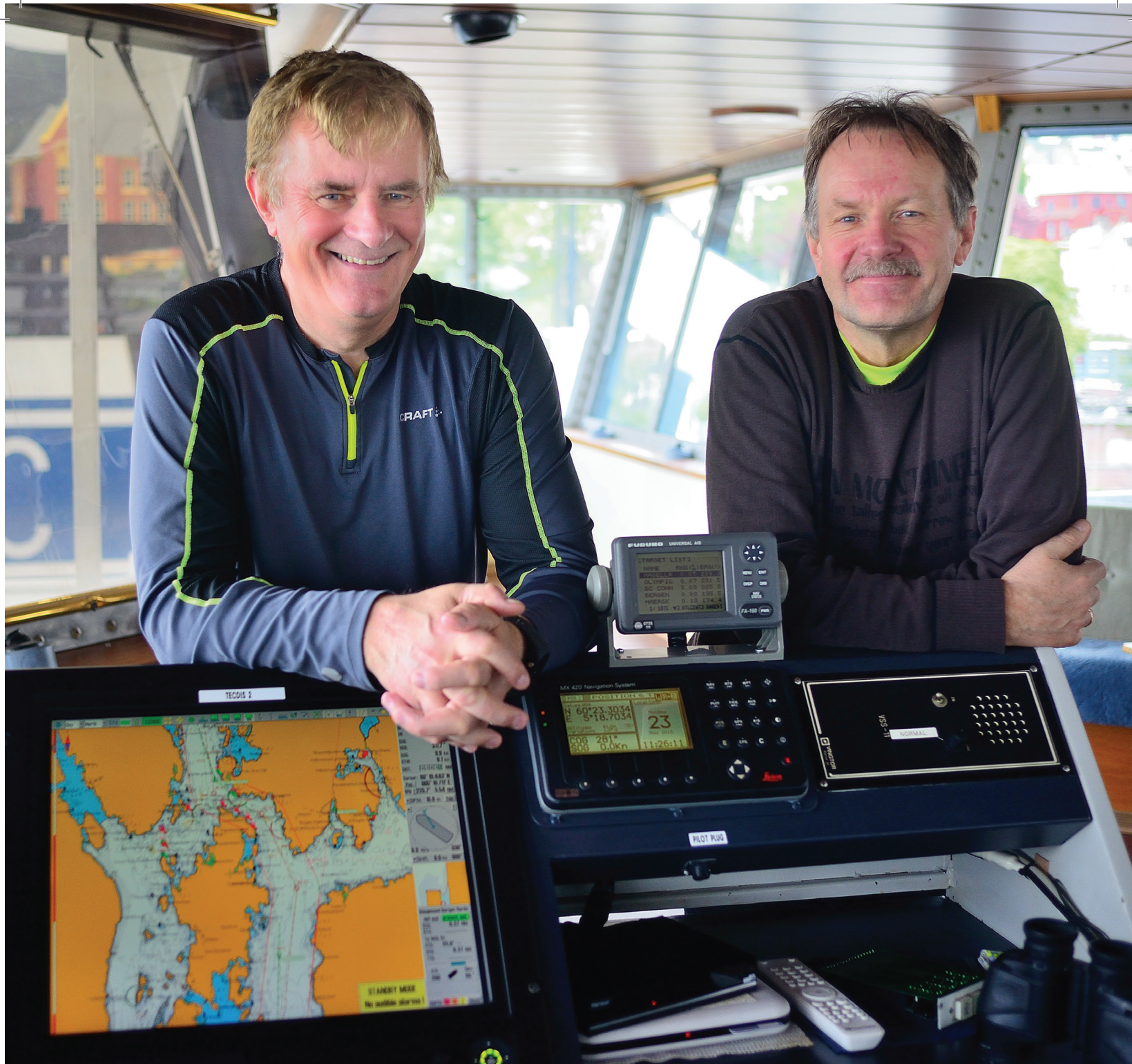
- Remi Rumian on SC Ahtela was ready for promotion to be Captain. Remi Rumian had the necessary PECs and took on the responsibility to train the two Captains, Odd Terje Ræstad and Zbigniew Stypula together with Chief Officer Piotr Skrzecz sailing on SC Astrea. In addition, he trained the crew on Astrea in the new Liner Trade.
- Chief Officer Michal Kwolczak moved from SC Trans Carrier to replace Remi Rumian on SC Ahtela.



- 2nd Officer Wojciech Bejna on SC Connector was also ready for promotion to Chief Officer and took this new position on Trans Carrier to replace Michal Kwolczak.

- By moving from one vessel to the other, Remi Rumian could help both the two Captains and Chief Officer Piotr Skrzecz who already had a PEC but needed to get PEC Class 1.

- Piotr Skrzecz had his PEC licence from the "old" regulations and got his class 1 PEC automatically. This was discovered after Piotr Skrzecz has successfully passed his exam, sailing through Vattlestraumen, south of Bergen.



The amazing fact is that this was done in four months. I think this is a new record and it shows what creativity and good will mean when it comes to development and efforts to save money for the company," says Piotr Masny. "What was it like to teach well-experienced Captains – one of them even from Norway – about how to manoeuvre in Norwegian waters?" we asked Remi Rumian.

"It was a good experience and a great opportunity to spread knowledge to good colleagues," Remi Rumian replies. He got his PEC seven to eight

years ago when he was sailing for another company. In addition, the well-experienced Captain Ræstad enjoyed the ride. "I have sailed along the Norwegian West coast many times and many years ago, and I still remember the areas where navigation can be critical. However, the coast changes over the years and it was good to get this chance to refresh my memory and update my knowledge."

"What do you think about being educated by a younger Captain than yourself?"

"Age and rank do not matter. What count are competencies and skills. What I really see as important is the ability to communicate well and clearly in English. Sailing in critical waters, you have to express yourself to other vessels and port authorities without room for misunderstanding. Language is just as important as knowledge about tide water and maelstroms," says Ræstad.



HANSEATIC DAYS in Bergen

Bergen is one of more than 20 cities around the North Sea and Baltic Sea with Hanseatic heritage. On June 9th the Hanseatic Days opened in Bergen to celebrate and nourish this common history and peaceful relationship. The Hanseatic trade was one of the reasons for why the shipping business developed – as in Bergen, which still is a leading shipping city internationally. The Hanseatic trade in Bergen was based on stockfish (dried cod) that was transported in smaller vessels from North of Norway to Bergen and later reloaded to larger vessels heading towards cities on the Continent. At the Hanseatic Days, we welcomed a delegation from Gdansk among many others. Moreover, the kids certainly favoured the occasion to dance and pose.

Seatrans core values:
Care - Involvement - Innovation - Performance