

# LIIKENNE- LENTÄJÄ



3/2012

ENGLISH EDITION

IFALPA  
MEETINGS IN **HELSINKI**



**FinnHEMS**

**A DREAM  
COME TRUE**

**KEROSENE**

# Lääkärihelikopteritoiminta tärkeä osa ensihoitoa

Suomessa on harjoitettu lääkärihelikopteritoimintaa noin 20 vuoden ajan. Vuoden 2011 alusta toiminta siirtyi paikallisilta tukiyhdistyksiltä valtakunnallisesti toimivalle FinnHEMS Oy:lle. Nyt Suomessa on ensimmäistä kertaa kattava, keskitetysti hallintoitu lääkärihelikopteripalvelu, jota kehitetään jatkuvasti.

**K**iireellistä lääkärihelikopteritoimintaa (HEMS) on viime vuosien aikana uudistettu monin eri tavoin, ja se muodostaa nykyään kiinteän osan suomalaisista ensihoitoa. FinnHEMS on vastannut tämän vuoden alusta lähtien kuuden tukikohdan toiminnasta. FinnHEMS-tukikohdat ovat ympärivuorokautisessa lähtövalmiudessa, ja niiden kautta lääkärihelikopteripalvelu tavoittaa yli 70 prosenttia suomalaisista.

FinnHEMS työskentelee tiiviissä yhteistyössä yliopistollisten sairaanhoitopiirin kanssa. Näin Suomeen saadaan muodostettua valtakunnallisesti kattava ja laadukas ensihoitopalvelukokonaisuus. FinnHEMSin tehtäviin kuuluu lisäksi lentoyhtiöiden kilpailuttaminen, lentosopimukset sekä toiminnan ja laatukriteerien täyttymisen valvonta.



## FINNHEMSIN LÄÄKÄRI- JA LÄÄKINTÄHELIKOPTERIYKSIKÖT

- FinnHEMS10** tukikohta **EFHK** (operaattori SHT Ab)
- FinnHEMS20** tukikohta **EFTU** (operaattori SHT Ab)
- FinnHEMS30** tukikohta **EFTP** (alkaa kesällä 2012) (operaattori SHT Ab)
- FinnHEMS50** tukikohta OYS toimii **EFOU läheisyydessä** (operaattori SMC Ab)
- FinnHEMS51** tukikohta **EFRO** (operaattori SMC Ab)
- FinnHEMS60** tukikohta **EFVR** (siirtyy myöhemmin, **EFKU** tukikohtaan) (operaattori SMC Ab)

**FinnHEMS-yksiköt käyttävät ICAO Doc. 8585 mukaisesti myönnettyä "FINNHEMS" -kutsutunnusta.** Jokaisella lentoasemalla, jolla FinnHEMSin hallinnoima HEMS-helikopteriyksikkö toimii, on laadittu yhteistoimintasopimus lento-operaattorin ja paikallisen ATC-yksikön kesken. Yhteistyösopimuksessa on määritellyt menettelytavat HEMS-yksikön toiminnalle erilaisissa tehtävissä ja tilanteissa niin, että porrastukset ja turvallisuusmarginaalit muuhun liikenteeseen toteutuvat. Yhteistyösopimuksessa sovitut menettelytavat on kuvattu kunkin ATC-yksikön toimintakäsikirjassa.

## LISÄTIETOJA

**Jyri Örrö**, toimitusjohtaja, FinnHEMS Oy,  
[jiyri.orrö@finnhems.fi](mailto:jiyri.orrö@finnhems.fi), puh. 010 292 2999  
[www.finnhems.fi](http://www.finnhems.fi)

**Jouni Romppanen**, lentotoiminnan johtaja,  
 Skärgårdshavets Helikoptertjänst Ab,  
[jouni.romppanen@shtab.com](mailto:jouni.romppanen@shtab.com), puh. 040 500 4887  
[www.shtab.com](http://www.shtab.com)

**Sauli Koutaniemi**, lentotoiminnan johtaja (Suomi),  
 Scandinavian MediCopter AB,  
[sauli.koutaniemi@airamb.se](mailto:sauli.koutaniemi@airamb.se), puh. 0400 773 633  
[www.airamb.se](http://www.airamb.se)

## FINNHEMS LYHYESTI

FinnHEMS on yliopistollisten sairaanhoitopiirien omistama, yleishyödyllinen ja voittoa tavoittelematon osakeyhtiö. Yhtiö on perustettu vuonna 2010

FinnHEMSillä on kuusi tukikohtaa, joissa työskentelee 35 lentäjää, 25 lentoavustajaa ja 80 lääkäriä sekä ensihoitajaa.

## VISIO

Olla helikopterilla liikkuvan ensihoitopalvelun johtava ja kansainvälisesti arvostettu asiantuntija, joka hallinnoi ensihoitopalvelun toteuttamisessa tarvittavia palveluita ja kumppanuuksia.

## MISSIO

Tukea turvallisen, laadukkaan ja tasa-arvoisen ensihoitopalvelun toteuttamista Suomessa.



# A small world

As the world is getting smaller due to the growth in the airline industry, we have to think and act more globally. Creating our Pilots' Magazine in English has been challenging, but we have made it possible. With this issue we can spread our views more globally, to all English speakers.

Hot topics in the cockpit include summer vacation, summer weather and mosquitoes. For Finns, summer is a great relief from the cold and dark winter. With sunshine in the eyes, the future looks much brighter and our worries seem to disappear. At Christmas we pushed for positive news, and now we just keep the bad news short. When (if) you have your summer vacation, take a few steps back and forget your problems for a little while. Relax and recharge your batteries, because all the problems you left behind will soon be in front of you again anyway.

## Sunshine after the rain

The contract pilot issue has been a hot potato for a long time, but the new EU social regulation is bringing hope of getting this issue in order. Pilots who have lost their social rights and benefits due to contracting will be entitled to social benefits in the country in which they are based. They will just have to ask for them. Let's hope they will!



Flight Time Limitations are being pushed towards science-based rules, and the pressure will stop only when this is reached. Airline managers are not scientists, although they do seem to have "the right ideas" for new Flight Time Limitations. Will we prevail? At least we can't say we didn't do anything, right?

On the whole, the European Airline Industry is not in good shape. It has been driven into a corner. The airlines have not made a profit for a long time, but the multi-million businesses around the airlines have been doing ok. Governments have been the winners due to the huge amounts of direct and indirect taxes. These taxes and labour fees, etc., amount to a multi-million pile of money that is created by the airline industry. So why are they pushing their moneymaking machine tighter and tighter? Why do they just look and not react when business is being pushed to some other country? "To make company profits go up, we need to move to low-cost business".

When all the business is lost, the pile of money goes with it. The Mehiläinen health-care centre in Finland is a good example. It made

a profit of about 30 million euro last year, and 300,000 euro was paid to Finland as taxes. That is 1%. The normal tax rate for a company is 24.5%. The Finnish health care system is getting tighter and tighter and doctors move to the private sector. The winner is the businessman behind the system. And the loser? Well, you know.

The airline business in Finland is in a transition phase. Finnair should be announcing their new Joint Venture in a few weeks (it might have happened by the time you read this). Creating a new company in the highly competitive Nordic market is not an easy task. SAS are putting more effort into Scandinavia, and the low-cost Norwegian announced a loss of 25% in the 1st quarter. Then we have the Baltic airlines. However the plan goes, it seems there is competition in the costs. Can Finland win this race? Will the "money machine" be pushed to some low-cost country? We will soon know.

## Let's get together

The FPA keeps bringing its member unions and member pilots closer together. The only thing that can help in this cruel battle is unity and knowledge. We will increase both and hopefully make the future a bit brighter for our members. The future is not set in stone. Together, we can change it!

## Tervetuloa kiven sisään!

Koe ainutlaatuinen historiallinen vankilamiljöö laadukkaassa hotellissamme Helsingin keskustassa.

**Kysy lisää myyntipalvelustamme**

puh. 09 6864 5132 tai sales@bwkatajanokka.fi



# Hotel Katajanokka

Merikasarminkatu 1a, 00160 Helsinki  
www.bwkatajanokka.fi

# LIIKENNE- LENTÄJÄ

3/2012



6

## IFALPA meets Helsinki

The Security committee is meeting in a prison in Helsinki. Craig Hall reveals all about what they are up to and what the sentence is...



10

## FinnHEMS

Now it is up and running, finally. Helicopter Emergency Medical Service is what it's all about.



18

## Dream come true

Our reporter, Miikka Hult, got invited to a flight with the new Boeing 787. Is he the first one in Finland to have logged hours in it (as a passenger)?



28

## Kerosene

Some feel you can never have too much, others settle for the minimum. What is it really, the stuff, and where does it come from?



## Contents:

3	A word from the president
5	Editorial
12	Dangerous Goods in Helsinki
13	How safe are we?
14	What's new at HEL ATC
16	Finnish Helicopter Safety Team
24	Self-incrimination - a legal point of view
32	HEMS historic review
34	Social Media report
36	Pilots around the world
38	Museums and more

## Liikennelentäjä-lehden aineisto- ja ilmestymiskalenteri 2012

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Lehti pyytää huomioimaan, että toimitustyön luonteen ja resurssien vuoksi ilmestymisajankohdat ovat ohjeellisia. Lehti ei vastaa ilmoittajalle mahdollisesti aiheutuvasta vahingosta, jos hyväksyttyä ilmoitusta ei tuotannollisista tai muista syistä voida julkaista määrättyyn ajankohtaan mennessä. Toimitus tiedottaa etukäteen tiedossaan olevista julkaisuviiveistä. Lehden vastuu ilmoituksen julkaisemisesta tapahtuneeseen virheeseen rajoittuu ilmoitus-hinnan palautukseen.

## Julkaisija:

Suomen Lentäjäliitto ry. –  
Finnish Pilots' Association (FPA)  
Tietotie 13, 01530 Vantaa  
p. 09-753 7220,  
fax 09-753 7177

## Vastaava päätoimittaja:

FPA:n puheenjohtaja  
Sami Simonen  
p. 0400-684 818  
sami.simonen@fpapilots.fi

## Päätoimittaja:

Tom Nyström  
tom.nystrom@fpapilots.fi

## Toimittajat:

Miikka Hult, Pekka Lehtinen, Matias Jaskari ja Heikki Tolvanen

## Ulkoasu ja taitto:

Jukka Luoma

## Toimituksen sähköpostiosoite:

toimitus@fpapilots.fi

## Toimitusneuvosto:

Suomen Lentäjäliitto ry:n hallitus

## Oikoluku ja kieliasu:

Proverbial Oy, Helsinki  
p. 0400-471924

Ilmoitustilan markkinointi tapahtuu  
FPA ry:n alayhdistysten toimesta.

## Ilmoitusmyynti:

Mikael Währn  
040-752 9269  
mikael.wahrn@sllpilots.fi

## Tämän lehden painopaikka:

Suomen Painotuote  
Äyritie 8 A  
01510 Vantaa  
020 779 7264  
www.painotuote.fi

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kantaa. Virallisen kannan ilmaisee leh-  
dessä ainoastaan Suomen Lentäjäliitto  
ry:n puheenjohtaja.

Kansi: Miikka Hult

# R E S P E C T

I have recently returned from a trip to China and London. During all that travelling I had the chance to talk to a lot of pilots from different countries. No matter what we discussed, it really came down to one thing: respect - or rather, the lack of it.

The talk of the season is contract piloting, and rightfully so. Everywhere you look, companies are trying hard to find savings. Nothing wrong with that; a company that's unprofitable won't exist for too long. What is really upsetting is the way companies are doing it.

First, there is the issue of airline companies trying to evade taxes by allowing (or rather pushing) pilots to establish their own companies - to become entrepreneurs instead of employees. This way it is easy to get rid of any pilots not wanting to play by their rules, as the rules vary and the pilots are based in countries that have unclear taxation policies. All this will leave pilots with basically no job security or social security benefits. Ryanair is probably the main culprit in this sense, but Norwegian is also trying hard to learn the game. For instance, Norwegian has just set up a Malaga base for flights to and from Sweden. They are offering six-month contracts (summertime only), but not to Swedes or Spaniards. Why? Taxation. Where is the respect in that?

Other companies, for instance in Spain, have found a different way to get rid of excess pilots. They simply make some pilots fail their simulator flights. While grounded, they don't get paid because it was their own fault. Nor will they get any social benefits from the government; again, it was their own fault. Several failures



**Tom Nyström**  
Editor in chief  
E70/90 captain

will give the company reason enough to terminate the employment. Who wants an unemployed pilot with several failures on his cv? Respect?

In Australia, the migration laws are pretty tough. It is not easy for foreign flight crews to get a work permit. Guess what, you don't have to. One company hires Asian cabin crews, with lower salaries of course. With a crew visa they now can enter the country and stay for 30 days. So they are scheduled on domestic flights for that time, until it's time to go abroad and get a new visa. Respect?

I wish these were isolated occurrences, but this is happening all over the world. From a pilot's point of view, it is not about money. It is about having some sort of job security. Without it, it takes a lot of balls to report problems, or especially if you are fatigued. It is about having social security, knowing that what you earn will someday afford you your pension. It is about, yes you've guessed it, respect.

Respect a pilot and let him focus on what he loves to do, flying. If he doesn't have to worry about whether he can write that report, he can focus on safety and efficiency, on saving money (for the company).

It is at times like these I feel happy to work for an employer who lets you do just that. For many years, pilots in Finland (and other European

countries as well) have had that security. It is not by chance that pilots from respected companies have had an easier time finding jobs worldwide. Those few who have left, that is. They have had the benefit of being able to concentrate on their skills instead of worrying about having a job or not.

Having said that, even on the outskirts of the EU, the times they are a-changing, and the foundation has started to fall apart. I don't want to cry wolf, but if the trend continues, sooner or later we will have a major accident in Europe as well. By that time it will be too late to change; the change must start now.

You are holding in your hand a piece of history, the first ever Liikennelentäjä magazine in English. Through resourceful editors and contributors for over 50 years, the magazine has developed and evolved, one step at a time. The first issues were written on typewriters and copied by hand, the circulation being only about 20 copies. Today we are reaching out to a global community, including all Finnish airline pilots, company executives, authorities and interest groups, just to name a few. The increase from 20 to 1,400 copies isn't all that bad.

We welcome our international readers, who have a chance to get a rare glimpse of what airline aviation is in Finland today from a professional point of view. Our staff, all active pilots, have done a tremendous job. Thank you guys for making it possible. It's not easy to find the time to create a magazine while you're flying full time.

Enjoy the summer - and hey, let's be careful, it's a jungle out there.



Continued vigilance is still required, as far as security goes.  
Photo: Miikka Hult

# INSIDER'S INSIGHTS

*IFALPA's security committee will have its annual meeting in Helsinki in June, hosted by the Finnish Pilots' Association FPA. In an interview for the Liikennealentäjä journal, the committee chairman Craig Hall reviews his thoughts on the present level of aviation security, the greatest contemporary challenges and ongoing projects.*

1) In general, how do you see the global aviation security level today? How about the future, do you have visions you'd like to lead us to, as the committee chairman?

As far as the global security level today goes, the best thing I can say is that continued vigilance is required. Recent events have eliminated some of our enemy's most important leaders, but we must temper this with the knowledge that we face a very resourceful and committed adversary who desperately wishes to do us harm. This enemy will not cease his efforts until either he is successful or we finally defeat him. He is continually trying to find



**Tomi Tervo**  
A32 co-pilot

**FINNAIR**

creative ways to attack our industry and the world economy, and we must not relax our efforts for an instant. No single event would devastate our industry more than another successful large-scale attack against the aviation sector. Such an event would inevitably lead to the demise of dozens of airlines and would end tens of thousands of careers worldwide.

No single event would devastate our industry more than another successful large-scale attack against the aviation sector.



The Security Committee is making every effort to influence international standards and recommended practices aimed at preventing this from happening. At the same time, this work must be tempered with the understanding that governments are under extreme financial pressure, and that these standards must be effective and affordable. In other words, we need to get the best "bang for the buck". This is our challenge: to ensure that we have a secure industry, while ensuring that the money is being spent in the most efficient way possible.

2) *Among the committee's hottest topics are cargo security, passenger differentiation and the design of the checkpoint of the future. Do you see some of these (or some others) as a special sector that deserves more attention from the authorities and stakeholders?*

Yes, yes and yes!!! Let me talk briefly about each one.

For a long time we have identified the global air cargo industry as one of the weak areas in the system. The "toner cartridge" attack literally gave the cargo sector worldwide a big wake-up call. We were very lucky. But the result of this attack was that the worldwide cargo industry finally realized that they had to make some drastic changes, and we have seen many significant improvements. I believe that we will soon see more.

One of the things we have done within the IFALPA Security Committee is to create a permanent internal working group specifically devoted to air cargo security. This group has done some good work over the past year, and under the leadership of Capt. Dominique Bonnet (France), I am looking for big things from them.

Passenger differentiation is another big issue. I have long held the belief that we can't treat all passengers identically. Right now, our system is designed to treat all passengers at the same level of risk. This cookie-cutter, one-size-fits-all approach is just wrong. A retired Justice of the Supreme Court, an aging World War II veteran, or an airline pilot represent a very different level of threat compared to a

federal prison parolee or a member of a street gang. To treat them all the same at the screening checkpoint is not only inefficient, it speaks of a flawed philosophy. When we have limited resources we must focus those resources on those passengers with the greatest potential to do us harm, and make the screening experience for the 99.9% of passengers, who are good people and are not a threat to us, as hassle-free as possible.

Checkpoint of the Future (CoF) is designed to do just this. We are watching this initiative with great interest, and are cooperating with IATA on this project. It makes sense and is gaining momentum. It's all part of working smarter, not harder.

3) *Passengers have been frustrated by strong security measures. And on the other hand, there have been cases where the present airport security has failed to detect some rare threats. Do you see the pax differentiation and profiling going in the right direction? Have you had good experiences of the "Trusted passenger" scheme in the USA so far, both facilitation and security-wise?*

Do I expect another 9/11? No. Do I fear another 9/11? Yes. Every day.

For many years I have felt that we spend entirely too much time and effort on passengers who have no hostile intent. Even when we confiscate pro-

## Chairman's profile



Canadian Captain Craig Hall is the current chairman of the IFALPA Security Committee. He has been a member of the Security Committee since 1994, and was elected to the Chairmanship at the 2011 IFALPA Conference in Thailand.

Craig flies a Dash 8 for Jazz aviation, which is the second largest airline in Canada, employing some 1,600 pilots. He lives in Sherwood Park near Edmonton with his wife and son. As a fanatical follower of the Edmonton Oilers, Craig knows the Finns Jari Kurri, Teemu Hartikainen and Lennart Petrell very well.

hibited items at the screening checkpoint, in almost every case we confiscate them from an individual who just forgot he had it in his possession, is totally mortified when it's discovered, and cheerfully accepts whatever sanctions are meted out. Don't get me wrong; we need to ensure that these "bad things" don't get on our aircraft. But we need to realize that it's the "bad people" who are the real problem.

The initiatives you speak of, such as the Pre-Check initiative in the United States and the Trusted Traveler program in Canada, are huge steps in the right direction. Passengers willing to surrender some personal information and go through a vetting process are able to utilize a special procedure that involves less time and hassle. I've had personal experience of the Trusted Traveler program in Canada, which uses an existing customs procedure called "Nexus". Nexus members, who have gone through a thorough vetting process in order to use an expedited





99.9% of the passengers are good people, who understandably are frustrated with the security checks. The problem is how to make it easier for them, without letting the bad guys through.

customs process, can use a dedicated screening line, which involves a more basic screening procedure. It's a great idea, and is proving very popular with passengers.

The other side of that coin is that we need to find a way to identify those passengers that we need to watch more closely. We don't use the dreaded "profiling" word as it conjures up images of racial and religious profiling; instead, we concentrate on behaviours and behavioural pattern recognition. These programs are now in place in many countries, and I believe they are working. They also have the ancillary benefit of identifying individuals with outstanding warrants, and many of these individuals have been apprehended as a result.

I'd also like to briefly address the "race and religion" concerns. We don't do this for one simple reason (aside from the obvious human rights concerns of course): racial and religious profiling just doesn't work. By using these types of criteria you simply divert resources to an identifiable group - again, 99% of whom are good people. The result is that by doing so you

open the back door and risk missing the people that you need to be paying attention to. To use these criteria as a security tool is not only morally wrong, it's operationally wrong as well.

*4) Crew screening has been a kind of a hot topic for years among pilots. The USA and Canada have implemented projects that aim at facilitating crew and personnel movements in the airports ("Known Crewmember" and "RAIC"). What are your experiences of these?*

As a Canadian, I am personally proud that my own country was the first to implement a system for airport employees that combines biometric identification with extremely robust background checks, and uses this information to expedite our access to the workplace. Again, such a philosophy makes sense as an effective security tool. The

Known Crewmember initiative in the United States is gaining more and more momentum all the time, and as more airports and airlines buy into the system our American colleagues are continuing to see increased benefits. Again, it's an excellent security tool.

But it's not just in North America that this is taking place. Other countries are now beginning to realize that if

they can take trusted individuals such as airline pilots out of the system, it frees up more resources for them to devote to more effective passenger screening. Spain is now actively pursuing such a system, and I have also learned that Hong Kong is now considering it as well. It's our hope that this

philosophy will continue to gather momentum, and the ancillary benefit to pilots will be that our access to our aircraft will be made much easier.



**We need to continue to be vigilant, and think about tomorrow's threat instead of trying to prevent yesterday's attack.**





5) *You have been a security committee member for a long time. How would you describe IFALPA's role in the field in the post-9/11 world?*

In order to be effective, I think our focus must be two-pronged. We need to ensure that economics don't trump security. Secondly, we must ensure that the money is spent effectively.

Let me explain. First of all, we need to ensure that governments don't fall into the trap of thinking that just because we haven't had a house fire for over ten years we don't need insurance any more. In other words, we need to continue to be vigilant, and think about tomorrow's threat instead of trying to prevent yesterday's attack. If there's anything that keeps me awake at night, it's when I see complacency amongst people who should know better.

Having said that, we also need to realize that all over the world, governments' financial situations are under tremendous pressure. The result can be that some States focus on doing what they have always done, and just do more of it (as an example, the recent proliferation of Advanced Imaging Technologies or AIT). Unfortunately, what we see is that this philosophy sometimes actually costs more money with dubious results.

6) *Do you expect another 9/11 kind of event to happen in aviation?*

We must always hope for the best yet be prepared for the worst. That's our best chance of ensuring that it doesn't ever happen again. Our job in the Security Committee is to assume that it will happen again, and to work as hard as we can to delay the event as

long as possible. The more successful we are, the better our chance of ensuring that we can delay it forever. Do I expect another 9/11? No. Do I fear another 9/11? Yes. Every day.

7) *What do you expect from your visit to Finland? Is this your first visit? What do you know about Finland?*

Finland for me conjures up images of lakes, mountains, wildlife, and cold winters and hot summers; much the same as my own country. I think that many Canadians have an affinity with the Finns as we share so many things like a love of the outdoors and winter sports (especially ice hockey!). We both know how to drive a snowmobile, we have both seen the Northern Lights from our back yards, both of our countries are partially located above the Arctic Circle, we both know the difference between a blizzard and light snowfall, and we both know that mosquitoes are horrible in the summer. Unfortunately, for my first trip I won't be able to see much of the country, but I would dearly love to come back again and see more of it - during the hockey season of course!

I am also very much looking forward to visiting Helsinki as it's a comparable city to my home town of Edmonton in terms of size, although very different in that Edmonton has only existed as a city for about a hundred years after starting out as a fort and fur trading post. It certainly doesn't have the long history of the typical European or Scandinavian city. I am looking forward to seeing both the similarities and the differences. **L**

### ***The FPA welcomes the SEC & DG committees to the Prison!***

The Finnish Pilots' Association (FPA) is hosting two IFALPA committee meetings in June: the Security committee will meet on 16th -18th June and the Dangerous Goods committee on 19th -20th June at Hotel BW Katajanokka, Helsinki.

"As Katajanokka is a former prison, it is a perfectly secure place for the Security committee," says Sami Simonen, the President of the FPA. Although the hotel is a perfectly suitable venue for the meeting due its facilities and good location, the building did indeed serve as the Helsinki county prison for 165 years.

The oldest part of the building (the white part) was opened in 1837. The extension part of three new wings with red brick tiles was opened in 1888. During its history, until its closure in 2002, the prison has housed thousands and thousands of prisoners from all over the Southern Finland province. The Finnish Board of Antiquities has protected some parts of the building as nationally important structures. Following huge restoration work, the building was reopened in 2007, but this time it was open to the public as Hotel BW Katajanokka started to accommodate guests in its 106 rooms - which are all former prison cells of course. As partner in "crime", i.e. making the meeting possible, is Finsecpro - Suomen Turvaprojektit.



# FINSECPRO

The helicopters and their crews are on standby 24/7, with a 3-5min dispatch time. Photo: Miikka Hult



## Tom Nyström

**T**he Finnish helicopter emergency services moved into a new era in 2010 with the founding of a new company, FinnHEMS. With a history of being disorganized and the financing partly based on the goodwill of people and companies, it was time to make a change.

Most of the flying was done by small or private operators, whose main interest was simply to keep their helicopters flying and earn next month's salary. As everyone knows, neither an aeroplane nor a helicopter can be profitable unless it's airborne. It was not a question of insufficient piloting skills, more the choice of being out flying instead of doing paperwork.

FinnHEMS is working with the FHST (Finnish Helicopter Safety Team) to try and change what has been and set new standards when it comes to helicopter safety and organizing helicopter flying. "It's more a question of attitude than anything else," says Timo Honkavaara, the FinnHEMS flight operations expert. He, if anyone, should know. With a solid background

in setting up flight operations, but on the fixed-wing side, he has received a lot of scepticism during the establishment phase. Apparently it hasn't been easy to accept ideas coming from an airline pilot.

Honkavaara generalises and says the helicopter side is basically 20 years behind the fixed-wing side, and making all the same mistakes. Where the aeroplane pilots and companies are well organized and support a strong reporting culture, the same cannot be said for helicopters. Again, not really a question of lack of knowledge, probably more a lack of will and time.

The new company is trying to change all that by bringing in the best bits from airline operations. Together with a broad spectrum of experts, they sat down and sorted out what was needed and what could be done without. The helicopter pilots also had their say. The intention was not to make helicopter flying unaffordable, but to make it safe. Last year there were more than 100 accidents in Europe alone, 16 of which fatal. Europe has approximately 7,000 helicopters, so the safety record isn't really that impressive.

"From the beginning, we set out

to work together with the helicopter people, not against them," Timo Honkavaara says. He explains that when creating the standards there was a lot of pressure not to make them more strict than the JAR-OPS requires. As always, it is a question of money. It's no use creating standards no one can afford. Honkavaara is confident they've done a solid job; the standards FinnHEMS will use include a Safety Management System, Fatigue Risk Management, Precision RNAV, radio altimeter and autopilot, just to mention a few.

The bricks are starting to fall into place. The HEMS crew programme at the Finnish Aviation Academy in Pori is just starting and the weather forecasting companies have agreed to provide the helicopter bases with the same services as the air force. The bidding for the operator services was completed at the end of 2011. Two companies, SMC Ab in Northern Finland and SHT Ab in Southern Finland, started their operations at the beginning of 2012. An audit will be done by the end of this year to make sure they are living up to the required standards.

The project to introduce IFR flights



for Northern bases will start towards the end of 2012 and a two-pilot crew requirement is also under consideration.

"This is the most challenging project I've ever done," says Honkavaara. "Sometimes it has been quite frustrating, especially when it has been found that the agreed improvements have not been completed. And the change resistance from different stakeholders towards the development project for the entire Finnish HEMS business has sometimes been prominent."

## FinnHEMS

At the beginning of this century, the HEMS operations in Finland were not good. The operations were fragmented and the funding was uncertain - in some cases even dubious. The future was looking bleak and the services were running the risk of having to close down. FinnHEMS CEO Jyri Örrö was among those who realized something needed to be done, preferably quickly. "We looked at Norway, where the

HEMS worked fine, despite the topographical challenges, to see what they were doing differently," he says.

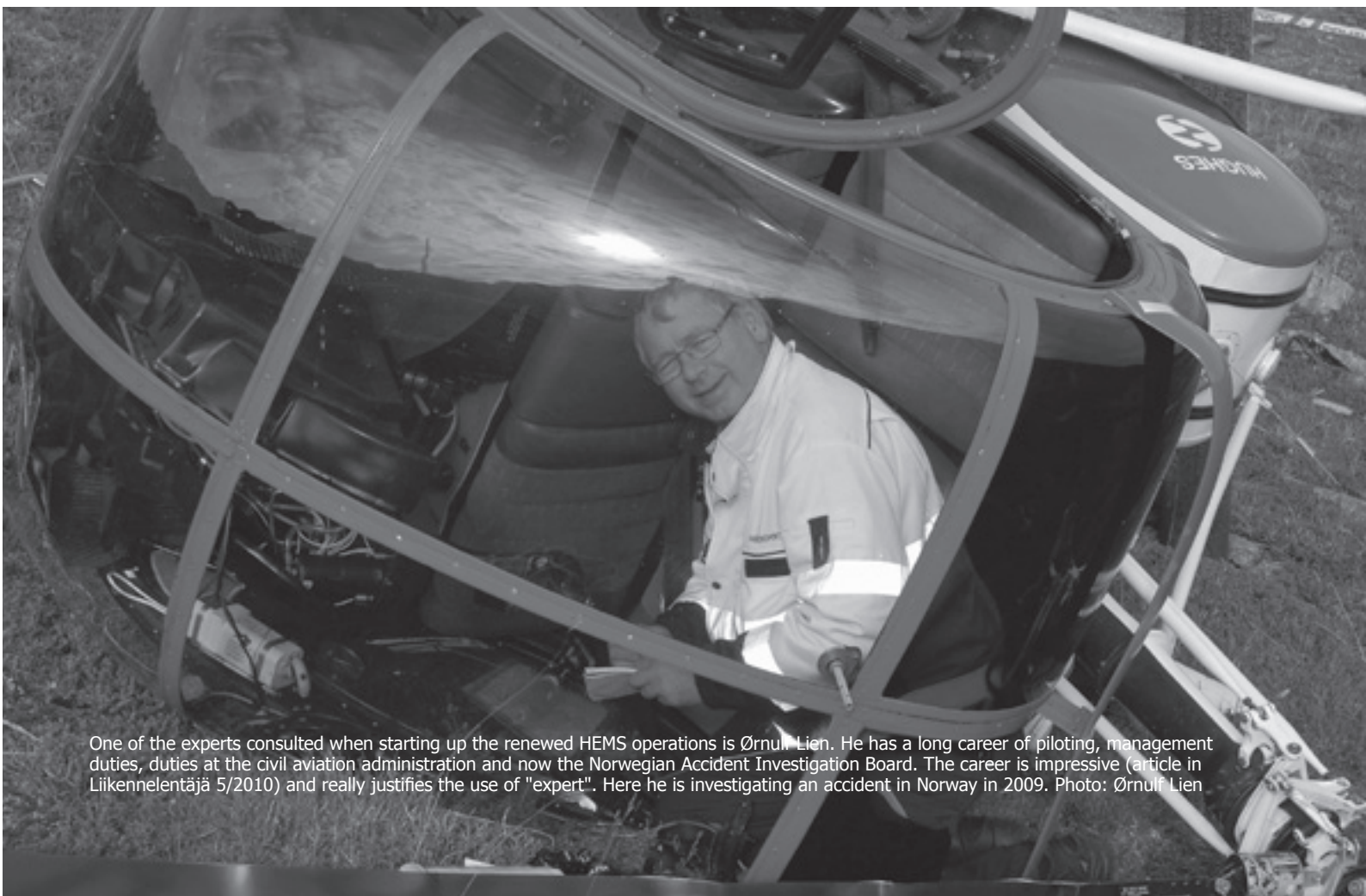
A proposal for changes in the way the emergency services were conducted in Finland was really what set things off. At the end of 2007 a Ministerial working group suggested HEMS should be administered by a single nationwide administration. More importantly, the funding, previously mostly contributed by RAY, was now to be provided by the State. The actual operations were to be governed by the main medical precincts.

FinnHEMS was founded in June 2010. It is a non-profit company jointly owned by five medical precincts in Finland. The company's mission is to administer the helicopter emergency services in Finland and be in charge of procurement and contracts, and also to supervise the operations and the operations standards. As of last year, the funding was transferred to the State.

There are six bases for the helicopters: Helsinki-Vantaa, Turku, Tampere, Kuopio, Oulu and

Rovaniemi. According to Jyri Örrö, 30 minutes is considered a critical time limit for help to get to the needy; for trauma patients in general there is a "golden hour" rule. With this setup the helicopters cover 70% of the population. "Without the helicopters, 23 ground units would be needed and there wouldn't be a chance of getting enough doctors," says Örrö. "The coverage would still be only 59%."

The helicopters and their crews are on standby 24/7, with a 3-5 min dispatch time. One crew consists of a doctor, a technical HEMS crew member (fireman/paramedic) and the pilot. The HEMS units get their missions from the emergency centre, who make the risk assessment. Contrary to general belief, patients are rarely transported in the helicopter. The helicopters' most important mission is to get the doctor to the patient. The patient is then normally transferred to the hospital by ambulance (also normally dispatched to the site). **L**



One of the experts consulted when starting up the renewed HEMS operations is Ørnulf Lien. He has a long career of piloting, management duties, duties at the civil aviation administration and now the Norwegian Accident Investigation Board. The career is impressive (article in Liikennelentäjä 5/2010) and really justifies the use of "expert". Here he is investigating an accident in Norway in 2009. Photo: Ørnulf Lien





Radioactive shipment requirements is one of the hot topics for the DG committee this year. Photo: Miikka Hult

# DEALING WITH THE DANGERS OF THE GOODS

## Tomi Tervo

*For several years, the IFALPA DG committee has worked very successfully with some quite complex but very important issues. For example, lithium batteries have been a very acute subject due to numerous severe incidents worldwide. The chairman, Mark Rogers, brings his committee to Helsinki with the expectations of a good meeting.*

*1) Lithium Batteries have been a hot potato for a long time, and still are. On a general level, do you have a positive feeling about the ongoing progress in ICAO, IATA and at the authority level? Are we going forward with the Lithium batteries?*

We have recently made major advances with ICAO, resulting in an agreement that will fully regulate the majority of large battery shipments. Beginning on January 1, 2013, any

package containing more than 8 cells or 2 batteries will have to comply with all of the dangerous goods regulations, including training for shippers and operators, Class 9 labels on the packages, acceptance checks, inspection prior to loading and after unloading, and inclusion on the pilot notification form.

This is a major step forward and will increase the safety of lithium battery shipments. It is not, however, the ultimate solution as it does not address batteries in or packed with equipment, nor does it introduce any stowage or quantity limitations. Lithium metal batteries, which do not respond to Halon suppression systems, are also not addressed. IFALPA is continuing to advocate that all lithium batteries should be fully regulated, loaded in a cargo compartment with a system capable of suppressing a fire and at a quantity that does not overwhelm that system. There is still much work to be done until we have achieved these goals.

*2) What are the other hot topics for the committee this year?*

We are also working on major ini-

tiatives regarding undeclared dangerous goods, an effort to revise the requirements of the pilot notification form, radioactive shipment requirements and a briefing leaflet informing pilots about dangerous goods.

*3) In January, IFALPA published a very good guide for pilots to facilitate the acceptance of the DG material onboard. Did you have a feeling that pilots underestimate the risks, or was there just a need to simplify the complex subject?*

The dangerous goods regulations are very complex, and many operators do not provide in-depth training. The guide is meant to bridge the gaps and serve as a resource for pilots accepting dangerous goods.

*4) What do you expect from the Helsinki meetings? Is this your first visit to Finland?*

We are looking forward to a productive meeting, with much of the focus on strategy following the recent ICAO agreement. It is my first visit to Finland, and I am excited about seeing the country, especially around the summer solstice! **L**

# WHO NEEDS US

**Hannu Korhonen**

The aviation business has an abundance of different safety organizations: the aviation authorities, company safety departments, local airport safety teams and training departments to name a few. Why do we then need a Pilots' Safety and Security Committee? Are we tramping a worn path or are we adding value to the aviation safety process? It is entirely up to us.

I took office as Chairman of the FPA Safety and Security Committee (FPA SSC) at the beginning of 2011. A year has now passed and I'm just becoming familiar with the scene. Finland is a small country where networking is fairly easy. During my 25-year career in civil aviation, at some stage I've crossed paths with most of the people involved in our industry. I've set my goal as projecting our image as trusted and unbiased professionals.

Our primary customer is flight safety. We steer well clear of any political labour discussion. How we bring forward our message is also very important. There is no need for the "Besserwisser" mentality. Nor do we press or insist on getting our ideas through. We lay open the observations and opinions we have and let the accountable party find the solution. Who is right does not matter, as long as the safety process gets better.

## Open doors and good manners

As in any other country, most of our aviation authority personnel come from a former civil aviation career. This carries the benefit that they can see the point of view of the professionals working at the grass roots. Thanks to this, our co-operation with TraFi, the Finnish National Aviation Authority, has been smooth and open. A good example is the EASA Flight Time Limitations issue, where we have had an open exchange of views and in-

formation with all the relevant parties.

We also have to understand the pressure that economics puts on the industry, and be open minded and creative. Safety is always worth its cost, but things can sometimes be completed more efficiently without a compromise. This is where co-operation is really needed. It makes perfect sense to analyze all the possible opinions before making a move that may affect flight safety. We have no legal accountability, but our view could be vital for the parties that do carry the burden. I hope that one day we'll be seen as a source of advice that's too important to pass by.

In the on-going quest for efficiency the operators' organizations are being trimmed slimmer and slimmer. Operators are faced with the risk of gross oversight on many issues, as there are fewer people to catch the hidden flaw. Therefore, the safety layers provided by different organizations should be fully utilized. A safety organization like ours can provide valuable observations that may even save lives. Our door is open for consultation. Be safe - give us a call.

## Flight Time Limitations - FTL - once again

The struggle is still on. We need to wake EASA up to the fact that their pro-

posed new FTL rule is not safe enough. For us pilots there is a danger of becoming too fed up with the topic and just giving up. There is no slowing down now! I urge all readers of this magazine to keep the topic alive. Pass the word along to everyone: EASA has an obligation to enhance aviation safety. They are not to be allowed to back down in the face of industrial lobbying. There is plenty of scientific evidence on which to build a solid and uncompromising FTL scheme.

The process is now at a seemingly quiet phase – although far from idle. The EASA FTL working group are currently assessing the comments they received on their Comment Response Document-CRD - in March. They plan to present their opinion to the EU Commission in June. Should there still be lapses and loopholes in the text, we will need all the public and political awareness possible to turn the case in favour of the travelling public. Meanwhile, be prepared to help us reach our goal and pass the word around.

Please sign the petition at [www.dead-tired.eu](http://www.dead-tired.eu). More information on the FTL issue can be found on the European Cockpit Association website: [www.eurocockpit.be](http://www.eurocockpit.be) **L**





Helsinki tower, 118.600.  
Photo: Miikka Hult



## Manne Koponen, Helsinki ATC

Finavia Corporation, the air navigation service provider in Finland, introduced a new Air Traffic Management system on March 24. The new system, like its predecessors, was supplied by Thales Air Systems.

The latest version of the Thales Eurocat, customized for Finavia, is called FRESH-UP and has replaced the 12-year-old Eurocat-2000 at Helsinki Airport and updated the Eurocat FRESH in other ATC units in Finland. This means that similar ATM systems are now in operation in the neighbouring countries of Finland, Estonia, Sweden and Denmark.

For the rest of Finland, which had been using a newer Eurocat version, this upgrade was only a minor one, but for Helsinki ATC it was a huge step. Therefore, each air traffic controller underwent a total of eight days of simulator and classroom training. Traffic was regula-

ted for a few weeks in order to guarantee a safe and controlled system introduction.

### Integrated system

At Helsinki ATC, the main difference is that instead of being a technically separate system we are now fully integrated with the rest of Finland, and share a common flight plan database. System integration gives us many advantages. In addition to radar data received from all antennas in Finland, we now also get data from antennas in Tallinn in Estonia and Stockholm in Sweden, which means better radar coverage and situational awareness.

Using similar systems makes it possible to coordinate the flights using OLDI (On Line Data Interface) messages between ATC units. This means that more functions are done "online" with the system and instead of making a phone call to the next sector, the controller can now use the system to do it "silently". From the controller's

point of view this makes it easier to provide route shortcuts and make tactical proposals to the next sector, thus freeing time for planning and controlling the flights.

For decades, air traffic controllers have used flight progress paper strips to keep a record of the instructions given to a pilot. That is now history. The new Eurocat together with the Saab e-Strip electronic flight progress strip system makes Helsinki Approach and Tower a totally "paperless" ATC unit. Now the controllers can pay more attention to controlling the flights and updating the system without the hassle of the paper strips.

There are many safety nets built into the system in order to increase safety. STCA (Short Term Conflict Alert) constantly monitors the tracks and warns if a conflict between aircraft is detected. APW (Area Proximity Warning) monitors the tracks in relation to areas dangerous to the flight and MSAW (Minimum Safe Altitude Warning) in relation to obstacles.



## Controller Working Position

A controller working position consists of two screens, a keyboard and a mouse. The user is able to customize the windows and settings on both screens. The bigger screen is normally filled with Main Radar Window and all the additional windows, like the arrival sequencer MAESTRO, flight lists displaying flight plan information and Secondary Radar Window, are opened on the small screen. If a single screen fails, the controller can continue working with the remaining one until a new working position is opened.

There is a major difference in working philosophy compared to the past: air traffic controllers used to make notes on the paper flight progress strips mainly for themselves. Now they are updating the flight plan of each flight - not only for themselves, but to keep the system functioning properly. All coordination between ATC sectors is dependent on correctly updated flight plan data.

In pilot terms the change can be compared to moving from traditio-

nal analogue gauges to a glass cockpit. The system works well as long as someone has told it what to do. All of the main functions are easily accessible from the radar label and flight plan lists to update the flight plan. The controller can view the updated flight route on the radar screen, similarly to the Navigation Display in an airliner. Only one controller at a time - the one responsible for the flight - can update the flight plan.

The controllers' working positions are connected to the system network, enabling each controller to send requests and commands to the servers, the heart of the system. Because most of the computers and servers are located in a different room and the radar screens are ordinary flat panel displays, there is no longer any need for massive consoles and cooling systems, and the working positions and environment can be more office-like.

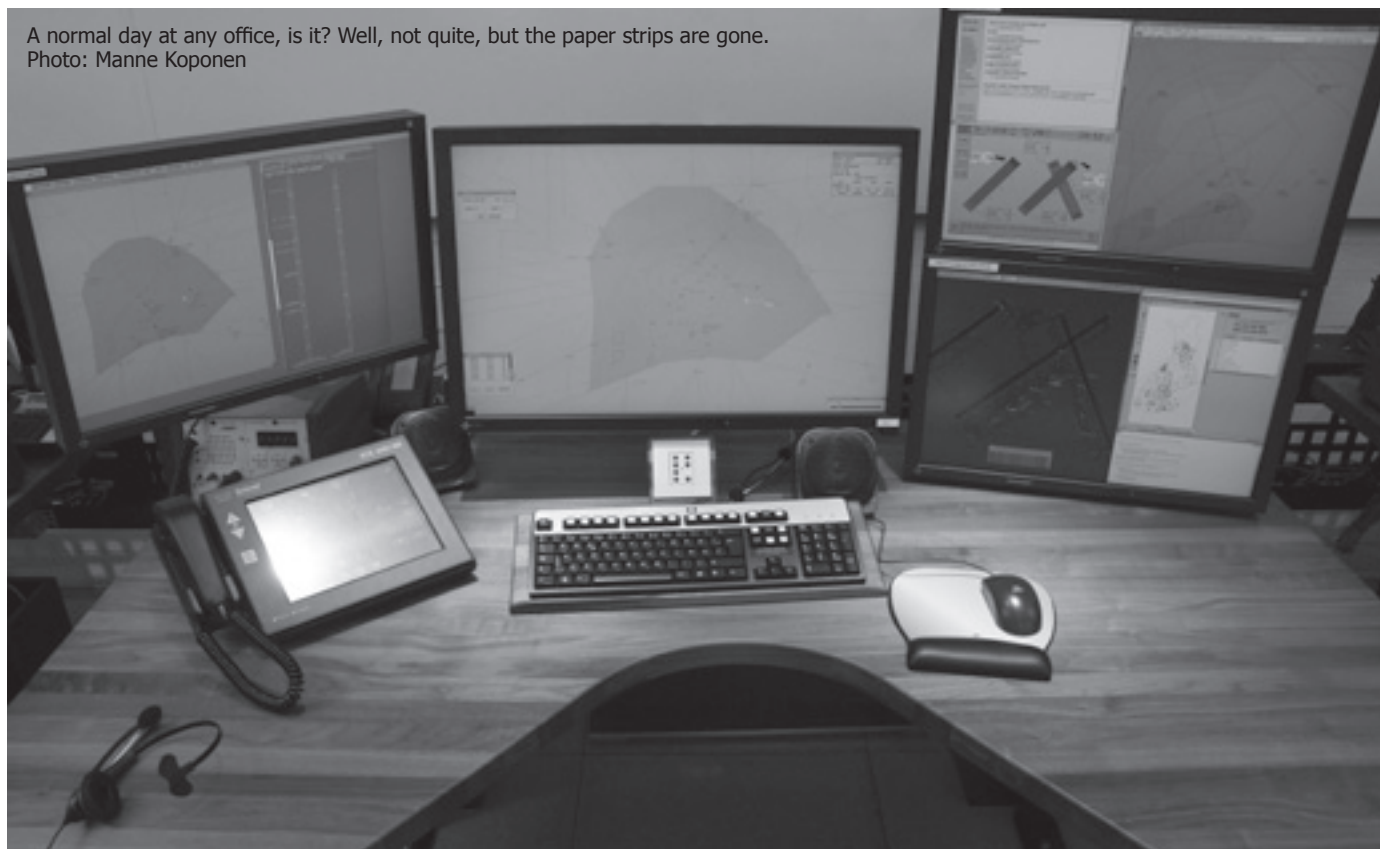
The system network and radar data processing are duplicated and normally share all the workload. For additional redundancy there is a third server for radar data proces-

sing, which makes the system very fail-safe. The system uses many radar sources to track a target and even a failure of multiple radar antennas can be covered with the remaining sources.

## The rats in the cave

Working in a cave is not necessarily as bad as it sounds! The Approach control, with its brand new equipment, is temporarily located in a cold war-era bunker deep under Helsinki Airport while the normal facilities are being renewed. When the work is completed, the temporary Approach control - which also served as a control room until the year 2000 - will be used as a simulator and contingency facility. Most of the controllers have been happy working with the new equipment, even though there is always room for improvement in new and complicated software. During its expected ten-year lifespan, the system will be fine-tuned to suit the needs of Helsinki ATC. **L**

A normal day at any office, is it? Well, not quite, but the paper strips are gone.  
Photo: Manne Koponen



# THE FINNISH HELICOPTER SAFETY TEAM

PART OF THE INTERNATIONAL AND EUROPEAN HELICOPTER SAFETY WORK

**Petteri Peltola**, Finnish Aviation Safety Agency, FHST Team Leader

In 2006, the International Helicopter Safety Team (IHST) launched a goal to reduce the helicopter accident rate by 80% by 2016. The European community adopted the goal and formed a team, the European Helicopter Safety Team (EHEST), under the European Strategic Safety Initiative umbrella.

The work started around Europe with analyzing the accidents in the timeframe 2000-2005, which occurred in EASA Member States. In Europe, where there are approximately 6,800 registered helicopters, there are approximately 100 civil helicopter accidents a year, of which 16 are fatal on average.

In Finland, Sweden and Norway the work started in 2007 and the regional teams were formed. The Finnish Helicopter Safety Team (FHST), was formed with the same philosophy as the IHST and EHEST

team compositions in order to get the best knowledge and coverage from different stakeholders at the national level. FHST representatives are from CAA, AIB, operators, training organizations, the Finnish Pilots' Association, the Border Guard and Army Aviation.

When the FHST started, the primary task was to analyze the published Finnish helicopter accident reports for the European Helicopter Safety Analysis Team (EHSAT), who was collecting the results on the European level. There has been co-operation between the Finnish, Swedish and Norwegian regional teams under the Nordic team umbrella from the beginning of the work.

The report on the analysis of the 2000-2005 European helicopter accidents was published in 2010. The results of the analysis, including intervention recommendations, formed the grounds for the implementation work that started in the specialist teams of the European Helicopter Safety Implementation Team (EHSIT) in 2009. Today, the established spe-

cialist teams are Operations and SMS, Training, Regulation, Maintenance and Technology.

The EHSIT Specialist Teams are producing best practice materials, e.g. risk assessment tools, checklists and toolkits for the operators and individual pilots. An important part of the work is to produce training leaflets and videos to be freely used by pilots, organizations and training organizations. All the material can be found on the EHEST web pages at <http://easa.europa.eu/essi/ehest> and is free for further delivery. EHEST-produced training leaflets are translated into French, Spanish, Chinese, Russian and Portuguese, and are in use worldwide.

Based on the results, the main target groups for the teams in Europe, as well as at the regional level, are the aerial work community and general aviation pilots. At the same time, these are the most difficult to reach and the safety culture among them is quite young. In Finland, the helicopter community is small, and it is possible to contact most of the licence holders. This spring, the FHST is going to mail all

the published training leaflets to the active licence holders and try to make sure that every helicopter pilot in Finland has heard about the EHEST and FHST goals. The bottom line is that every helicopter pilot is key to the improvement of safety in the industry and the interest is common to all.

Other methods for the FHST implementation work are safety seminars, roadshows and visits to the stakeholders. In September 2011 the FHST organized and hosted the first Finnish NVIS symposium in order to spread the knowledge on the safe NVIS (Night Vision Image System) operations among the stakeholders. NVIS operations recently started in Finland in HEMS. This year the FHST is adopting the idea of training the trainees, which means visits to training organizations in order to meet the instructors, who have a major role in safety with new pilots.

FHST and EHEST material can also be found on the Finnish Transport Safety Agency (Trafi) Helicopter safety website at

<http://www.trafi.fi/ilmailu/lentoturvallisuus/helikopterit>. Trafi is supporting FHST's work as part of the na-

tional aviation safety work in Finland.

To achieve the goal by 2016 is not easy task, but as long as every helicopter pilot is doing his or her share in adopting the best, safest practices on every flight and every decision made in flight, we are on the right course.

IHST - The International Helicopter Safety Team was formed as a major initiative to improve helicopter safety worldwide. The IHST is a combined government and industry effort to reduce the helicopter accident rate by 80% by 2016.

ESSI - The European Strategic Safety Initiative is a safety partnership aiming to enhance aviation safety in Europe and for European citizens worldwide. More than 150 organisations, including EASA, national authorities, manufacturers, operators, professional unions and the general aviation community, have participated to date.


EHEST - The European Helicopter Safety Team is the helicopter component of the ESSI and the European branch of the IHST. The EHEST counts more than 50 organisations and stakeholders from across Europe.

There are two main working groups in the EHEST structure: Analysis team and Implementation team.

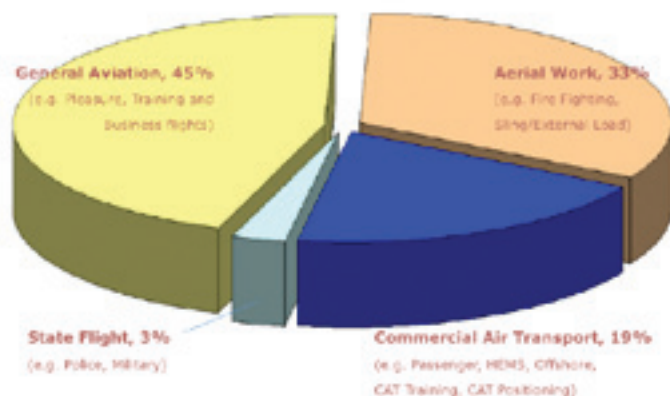
EHSAT - The European Helicopter Safety Analysis Team analyses accident investigation reports, and from this analysis identifies suggestions for safety enhancement.

EHSIT - The European Helicopter Safety Implementation Team uses the accident analysis and the intervention recommendations produced by the EHSAT to develop safety enhancement strategies, action plans and safety material. The work is done in specialist teams.

FHST - The Finnish Helicopter Safety Team is the EHEST regional team, executing both the analysis and implementation tasks of the EHEST and IHST core teams. An important part of the work is to spread the word on the best practices among the community.

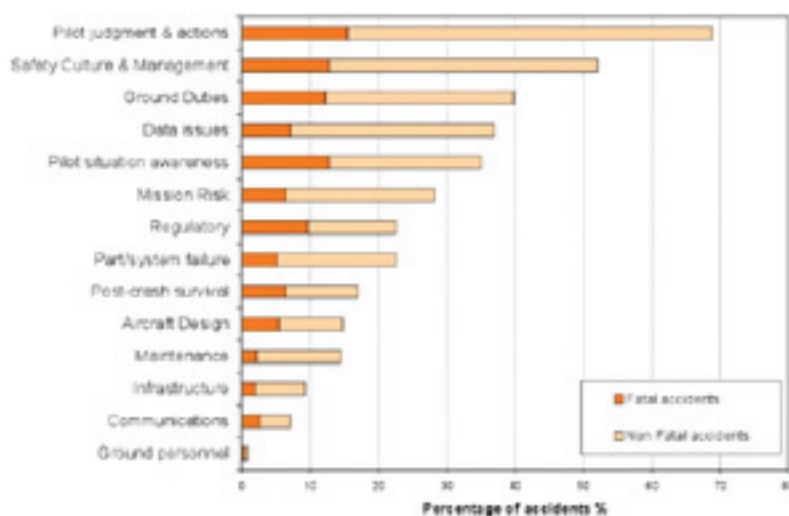
Petteri Peltola is an FHST team leader and EHEST, EHSAT and EHSIT core team member. In the FHST he represents the Finnish Transport Safety Agency. 

Distribution of type of operation in the EHSAT accident dataset 2000-2005



Finnish Helicopter Safety Team

EHSAT accident dataset 2000-2005



Finnish Helicopter Safety Team



The airframe maintenance costs have been dramatically reduced by 30 per cent with the new composite structures.  
Photos: Miikka Hult

# A DREAM THAT CAME TRUE

*Boeing's Dreamliner is most probably setting new standards for long-haul travel and also big expectations for Airbus and the A350XWB.*

Boeing flew their new 787-8 Dreamliner to Oslo in Norway at the beginning of May during the sixth part of the Dream Tour. The US manufacturer is promoting its new state-of-the-art aircraft around the world for its customers. After the sixth part of Dream Tour, more than 57,000 people will have visited the new aeroplane and over 100,000 nautical miles will have been flown.

The Dream Tour aircraft ZA003 has been a part of the flight test programme and is an experimental aircraft that still does not comply with all of the federal safety regulations for standard aircraft. During the tour it is equipped to demonstrate the Dreamliner's standard features and characteristics. Boeing is demonstrating the Dreamliner in Oslo together with Norwegian Air Shuttle, who are starting their long-haul operations with six 787-8 aircraft. Boeing will deliver the first Dreamliner to Norwegian during the first quarter of 2013. At the moment, the companies are negotiating to acquire more Dreamliners for Norwegian's upcoming long-haul operations.



## Advanced Technology

Boeing's Michael Fleming, who is the director of 787 services and support, says the Dreamliner is the "game changer" the aviation business has been waiting for. Built mostly from carbon fibre and composite materials, the Dreamliner is expected to be a cost saver for airlines and a tremendous experience for travellers.

The airframe maintenance costs have been dramatically reduced by 30 per cent with the new composite structures. Many aircraft systems, like hydraulics and bleed air, are replaced by electricity. Boeing's flight test captain, David Formento, says the only bleed air system in the plane is for engine anti-ice.

The manufacturer is also offering wide-range or MRO services to customers. Boeing's GoldCare, developed for the Dreamliner, mitigates risks and large capital expenditures, enhances fleet availability and predictability, and provides guaranteed levels of dispatch reliability.

The 787's advanced aerodynamic technologies are promised to dramatically improve the aeroplane's performance and reduce operating costs. New aerodynamic features are, for example, raked wing-tips, smooth wing technology, a variable-camber trailing edge, smaller flap-track fairings and laminar flow nacelles.

The Dreamliner is expected to bring 20 per cent cost savings on fuel burn compared to conventional same-sized jet aircraft. The next-generation high-bypass Trent 1000 and GENx engines reduce fuel consumption, which also leads to lower emissions. The noise footprint, with the help of the new engine and chevrons, is promised to be 60 per cent lower than on a conventional metallic aeroplane. Lower fuel consumption, and lower noise and environmental impact fees drastically reduce operating costs. The 787's fuel cost advantage over competitors' aircraft increases with every increase in jet fuel price. The Dreamliner's operating costs are reduced by 10 per cent.



## A Dream Come True

The Dreamliner 787-8 MTOW weighs 227,903 kg, the fuel tanks can be filled up to 126,810 litres and the maximum design range is 15,200 km (8,200 nm). It is able to carry 242 passengers in a three-class configuration from London to Perth in Australia, or to Santiago

in Chile, at a cruising speed of Mach 0.85. The aircraft is certified for a maximum of 375 passengers in a one-class seating configuration. The cargo bay is 124.5 cubic metres - the forward bay will take five pallets and the aft 12 LD-3 containers, plus some more space in the bulk.

The first steps from the L1 door open up an unexpected view of a spacious welcome hall illuminated by LED lights in this demo-plane's cabin. The first noticeable things in the cabin are the huge windows, large overhead lockers that can hold almost any size of luggage and dynamic LED lighting that is able

Arvaapa  
missä on  
tutkitusti  
paras  
palkkatili.\*

Meillä Tapiola Pankissa. Helsingin Sanomien pankkivertailussa korkomme oli ykkössijalla ja me maksamme koron tilisi päiväsaldon mukaan. Lue tutkimuksesta ja katso miten sinä hyödyt osoitteessa [tapiola.fi/pankki](http://tapiola.fi/pankki).

Kun avaat palkkatilin 29.6.2012 mennessä, osallistut viiden 500 euron matkalahjakortin arvontaan.

Tarkemmin ajatellen.

TAPIOLA

\*HS pankkivertailu 15.2.12. Palveluntarjoaja: Tapiola Pankki



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Bjorn Kjos has a clear vision of an even bigger long-haul fleet in his mind and those planes will definitely be Boeing Dreamliners.

to build the illusion of a changing circadian rhythm or even a rainbow on the cabin ceiling. New materials are the main reason for Boeing engineers being able to make the cabin windows much bigger than in, for example, Airbus's A330/A340 or A380 aircraft. The Dreamliner's cabin altitude is considerably lower and cabin air is more humid than in conventional jets.

The airline employees' well-being has also been taken care of with the new state-of-the-art flight deck, spacious galleys and rest compartments with peaceful colours that will ensure proper rest for the crew to continue safe operations. The Dreamliner's flight deck balances commonality with the latest enhancements. Boeing's commonality consists of familiar Boeing controls, displays and procedures that support short transi-

tion; a 777 pilot will only have to take a five-day transition course for a 787 type rating. The flight deck consists of customizable wide-screen displays, dual head-up displays, dual electronic flight bags and electronic checklists. The systems are built with an open architecture to allow easy system upgrades. Boeing says pilots will love the Dreamliner's cockpit right from the start.

Boeing's flight test captain, Heather Ross, is in command on the demo flight. She sets the thrust levers to full takeoff power, which rapidly accelerates the 787-8 to rotation speed at 1,200 metres. Nose up is set smoothly to 20 degrees, and in no time the Dreamliner is in the sky, maintaining 3,000 feet. During cruise the cabin is silent; the air conditioning system is much quieter than in other planes. The

cabin materials and structures have also been chosen to reduce different types of vibrations. The view outside to the newly designed wing is magnificent through the big windows.

### Smiling Captain, Smiling Passengers

Captain Formento confirms that the newly-designed electrical systems are working flawlessly. They have made several test flights with only battery power and with RAT backup power. The Dreamliner's only bleed air system is for engine anti-ice and the engines are started with an electrical starter. Formento emphasises that both engines can be started at the same time.

The Dreamliner is promised to cruise much more smoothly due to



gust suppression, which is made possible by the new thinner wing and new fly-by-wire flight control laws. The 787 flap system is not only used for takeoff and landing but also to suppress motion in the cruise phase. The flaps' movement is unnoticeable in the cockpit during cruise. Sensors around the aircraft measure changes in angular velocity and pressure distribution. Using a fly-by-wire system, the controllers send signals to the electric motors that actuate the rudder, elevators, spoilers, ailerons and flaperons. The Dreamliner's software algorithms enable the fly-by-wire electronics to suppress wind gusts even before the plane begins to pitch, roll or yaw.

The cockpit is roomy, and the buttons and switches are in familiar positions for anyone who has flown Boeing aircraft. Big head-up displays for both captain and first officer offer more safety for low-visibility operations and huge LCD screens provide much more information and normal/abnormal procedure checklists. The Dreamliner has a built-in EFB system and there is also a moving map on the navigation display that is much appreciated by the pilots, especially in low-visibility operations.

Boeing are assembling the Dreamliners in two locations: in Everett, in the State of Washington, and on a new factory line in North Charleston, South Carolina, with a total production rate of three per month. There are plans to increase the production rate to ten aircraft a month by the end of 2013. Including May 2012, Boeing has a total of 854 orders for 787-8s and 787-9s from 60 customers. Eleven of the new aircraft have been delivered: ANA have received seven and JAL four 787-8s. The list price of a 787-8 is 193.5 million USD and a 787-9 is 227.8 million USD.

The short one-hour test flight is coming to an end a bit too soon and the snowy scenery of the coast of Norway is being left behind. The final part of the flight is an approach and planned go around from 200 ft followed by a visual approach and landing. After a smooth landing there is no applause, just smiling and happy faces. **L**

### ***Norwegian establishing low-cost long-haul operations***

Norwegian's CEO Bjorn Kjos is establishing long-haul operations on a low-cost base and has a vision of cutting costs and trip prices by half. Norwegian Air Shuttle is acquiring six new 787-8 Dreamliners from Boeing, and Kjos says these aircrafts are the game changers in the long-haul business.

Norwegian and Boeing demonstrated the new aeroplane at the Boeing Dream Tour in Oslo at the beginning of May. Norwegian, who are in a high-growth state, are getting their first Dreamliner during Q1 2013. A second will be joining the fleet during the winter of 2013. Altogether, Norwegian have leased three 787s from the leasing corporation ILFC and bought another three from Boeing.

Norwegian's operation model should reduce the costs in the long-haul by half, compared to other operators. The savings will be directed straight to the ticket prices.

The first long-haul routes are planned to be opened during autumn 2013. New routes are Bangkok-Stockholm, Bangkok-Oslo and Oslo-New York. Kjos says there is a lot of potential in Asia and they will take their share of the new markets by flying passengers to Scandinavia instead of London and Frankfurt. The biggest growth is expected to come from China, Vietnam, India and Thailand.

Norwegian's master plan is to fill up the flights with leisure passengers from Asia and not try to directly compete with Finnair. Kjos praises Finnair's business model as being brilliant, but says that no further co-operation is planned between the two companies. Kjos also confirms the company's statement to operate with fairly new aircraft in the future. The plan is to sell or lease out the planes after seven years of use. Norwegian has announced a deal to buy 222 new short-haul aircraft from Boeing and Airbus. Kjos also confirms that they will operate the Airbus fleet by themselves, even though they have almost always been a Boeing user. Kjos adds that using Airbuses will keep Boeing on their toes.

Kjos has a clear vision of an even bigger long-haul fleet in his mind and those planes will definitely be Boeing Dreamliners. Negotiations are ongoing and a deal is expected to be announced soon.



# THE RIGHT TO INCRIMINATION IN ACCIDENT INV – A BRIEF REVIEW FROM A P

*Disclaimer: This article is not intended to be taken as legal advice. The opinions presented are those of the author. No responsibility, legal or otherwise, shall be accepted regarding the content of the article.*

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**Fredrik Lindholm**, A32 Co-Pilot,  
Finnair

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In the previous issue of the *Liikennelentäjä* journal, the chairman of the FPA Safety and Security Committee touched upon the question of self-incrimination in the context of an aviation accident. The right to prevent self-incrimination is undoubtedly tied to the issue of criminal liability.

The question of criminal liability among aviation personnel, and the use of material derived from accident investigations in pursuing this liability, is a subject that enters the limelight on a regular basis. IFALPA has had its own stand

on the issue, with subsequent revisions, and, equally, the question was at the forefront during the preparatory stages of the EU accident investigation regulations. At the most recent meeting of the IFALPA legal committee in Madrid, the need for member associations to review the advice given to members in this context was also discussed. The matter is also current with regard to the conviction by an Athens court of an engineer, who had performed maintenance work on the Helios aircraft that crashed in 2005.

The issue of criminal liability is complex, not least because the legal order in Sovereign States va-

ries. It is also complex in that most legal systems incorporate rules in their criminal law that make certain actions, or omissions, criminal. Failing to be careful enough not to run over pedestrians whilst driving, or as a parent failing to supervise your under-aged child, for example, may lead to prosecution and eventually punishment being levied by the State. Why should aviation be any different?

The question is valid, and on occasion the aviation community's answer is one that is often met with scepticism. The aviation industry has long supported an open reporting and just culture. Increasing aviation safety through thorough

# PREVENT SELF- THE CONTEXT OF AIR VESTIGATIONS FINNISH LEGAL PERSPECTIVE

Truly superior pilots are those who use their superior judgment to avoid those situations where they might have to use their superior skills. Photo: Miikka Hult

and open incident and accident investigation seems a logical way to learn from, and prevent, events in the future. But voicing the need to limit the use of information acquired by accident or incident investigations does attract suspicion. Legislators, the general public and even to some extent the regulators ponder why a certain group seems to be striving for immunity for their actions. This has not, however, in my opinion, ever been the goal. Nor has it been the position of IFALPA.

As we have been drilled from the very beginning to report, confess as it were, omissions and mistakes we make ourselves, the majority of aviation personnel are mo-

re than willing to “own up”. With this in mind, an appropriate question would seem to be what risks, if any, are we running in doing so?

## Information disclosed during an accident or incident investigation in Finland

A new Safety Investigation Act (525/2011) entered into force in Finland on the 1st of June 2011. Aviation, railway, maritime, and accidents that can be classified as major, all fall within the scope of the Act. A detailed analysis of the Act is beyond the scope of this article, but a few paragraphs in the Act are of interest.

According to the Act, the purpose of a safety investigation is to improve public safety, prevent accidents and incidents, and counteract the level of damage arising from accidents. A safety investigation is not conducted in order to establish judicial liability. The preparatory papers for the Act are specific in pointing out that the purpose of a safety investigation is not to gather material or evidence for criminal inquiries or tort liability suits, or for determining other financial liability.

More specific provisions of the Act provide some degree of confidentiality regarding material gathered by the Safety Investigation

Authority. Accordingly, the Safety Investigation Authority may disclose information to other authorities - other than those undertaking safety investigations - only if it is necessary and in the public interest to do so. It is up to the Safety Investigation Authority to weigh the different interests. An example of public interest could be, for example, the promotion of safety after a serious accident.

It is worthwhile noting that certain information gathered during an accident investigation may be subjected to more far-reaching confidentiality. In this context, the preparatory papers specifically mention the distinct need to provide cockpit voice recordings with more far-reaching protection and confidentiality.

Disclosing information to the prosecuting authorities, and to those conducting police inquiries, is only allowed if the information is necessary in investigating a crime for which the maximum sentence is at least two years imprisonment. This would include crimes such as negligent homicide. It should be noted, however, that the Safety Investigation Authority is not allowed to disclose material that has predominantly been derived from a person who is entitled to refrain from disclosing the information in question during a police inquiry or trial. The kind of material covered by this confidentiality rule could be transcripts of interviews with the crewmembers involved. The rule is in place to protect an individual's right to prevent self-incrimination.

### What does the right to prevent self-incrimination mean?

The right to prevent self-incrimination means the right of a person suspected of committing a crime not to contribute to the establishment of his or her guilt. The principle primarily protects the will of an accused to remain silent. The principle is recognized in Finnish law and in the European

Human Rights Convention. As with most legal questions, the right to prevent self-incrimination is complex and multifaceted. It is not possible to discuss all of its finer points within the confines of this article. However, one can attempt to reduce the principle to its core.

The Finnish Supreme Court has recently heard cases where the principle of the right not to contribute to one's own guilt has been of central importance. In one of the decisions, the Court overturned its previous judgement following a ruling by the European Court of Human Rights.

The following points can be drawn from the reasoning of the Supreme Court's rulings. The right to prevent self-incrimination is closely tied to the legal protection of a person suspected of having committed a crime. The principle means that a suspect may not be forced or coerced, through the person's own actions, to contribute to the establishment of his or her guilt. It follows that the right to prevent self-incrimination is not, as a basis, applied to bankruptcy proceedings, for example. The principle may, however, be applicable in situations where a person suspected of a crime is required to disclose information to other than the prosecuting authorities, and the information could be of significance in a pending or anticipated criminal inquiry.

The Supreme Court has also stated that the right to prevent self-incrimination does not contain a requirement for an accused to specifically declare that he or she is appealing to this right. According to Finnish law, a suspect is not obligated to tell the truth during pre-trial investigations or criminal proceedings. The making of false statements by a suspect is not criminalized. In this regard, the Supreme Court has concluded that the right to prevent self-incrimination extends to protecting one's right to silence, including the refusal to give information altogether, and even includes giving false information.

### Does the right to prevent self-incrimination apply to accident investigations in Finland?

The Supreme Court has stated that a central principle for a fair trial in criminal proceedings is the right of the accused not to contribute to the establishment of his or her guilt. The principle extends to both pre-trial investigations and to procedures undertaken by other authorities. The right not to self-incriminate oneself may, therefore, arise in various circumstances. Equally, the right is not absolute.

From the reasoning of the Supreme Court decisions, the situations in which the principle has been invoked have been those where there has been a requirement for a person to disclose information, often through the threat of a fine or similar action. As this person has been obliged to disclose information to one authority, another has been undertaking a criminal inquiry into the same subject matter at the same time.

When determining the applicability of the right not to self-incriminate oneself, attention should be brought to the following. What is the matter-of-fact connection between the information that is required and a criminal proceeding? Is a criminal inquiry already under way, or is there a probability of one in the near future? Under what kind of obligation is the information required? What procedural guarantees are in place to provide for legal protection and how is the information received to be used? Is the information given in the particular circumstance inadmissible as evidence in later criminal proceedings?

According to the case law of the European Court of Human Rights, a criminal pre-trial inquiry equates with court criminal proceedings. When evaluating the connection between criminal proceedings and an accident investigation inquiry, for example, it is of importance that the object and focus of a criminal pre-trial inquiry is usually defined as the process moves for-





Birdstrike at V1 and you decide to stop. Unfortunately the runway isn't long enough and the a/c ends up in the grass. Lots of passengers get hurt during evacuation. Accident, yes, but can you get prosecuted? A good question. Photos: Miikka Hult

ward. Hence the extent of the right to prevent self-incrimination is to be evaluated from the point of view of the accused, and specifically in the situation under which he or she is required to submit certain information.

With regard to accident investigations, it is not unheard of that criminal pre-trial inquiries are undertaken after the completion of the accident report by the Safety Investigation Authority. Accident investigation reports have also been used as part of the evidence in criminal proceedings. Therefore, despite the safeguards of confidentiality in the Safety Investigation Act, there is, from the point of view of those involved in an accident, some level of uncertainty with regard to the accident investigation process.

It should also be noted that accident investigation hearings are not voluntary. In the original government bill it was proposed that these hearings were to be voluntary, but the wording of the Act changed during the parliamentary process. Also, the Safety Investigation

Act specifically states that one may employ legal counsel during a hearing. The person undertaking the hearing must also inform the person being interviewed of his rights. These are all matters that, in my opinion, are of importance when evaluating whether the right to prevent self-incrimination extends to accident investigations.

It is also of importance that, in connection with the paragraphs dealing with confidentiality, the right to prevent self-incrimination has specifically been mentioned in the preparatory papers. There is also mention in the preparatory papers that an interviewee should be informed of the sanctions of the Criminal Code regarding the crime of false statement in official proceedings. Whether the Criminal Code is applicable in this context is, to some extent, vague. Nonetheless, accident investigation hearings do seem to have an obligation under which information is requested – sufficient to warrant the extension of the scope of the right to prevent self-incrimination to apply to these hearings as well.

## To sum up

Finnish law provides for some level of confidentiality with regard to statements given in the context of an accident or incident investigation. The need to protect this information has been recognised by the legislators. The confidential nature of information intended to prevent accidents and incidents is also, in my opinion, well recognised by the Finnish authorities involved in analysing such information. As a rule, therefore, incident reporting and hearings by the Safety Investigation Authority need not necessarily be viewed with over-reaching suspicion.

Nonetheless, there do not seem to be any absolute guarantees prohibiting the use of information derived from accident investigation hearings in future criminal proceedings, although Finnish law does seem to provide an individual with enough safeguards to guarantee a fair trial, in the unthinkable situations in which one may find the need to invoke one's right to silence.

The importance of seeking legal advice is undoubtedly proportional to the distance away from home base. **L**



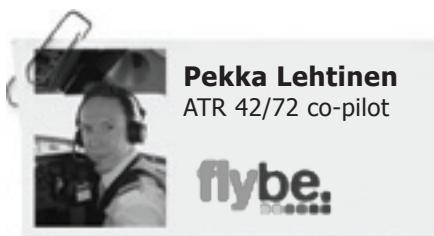
# FROM EARTH TO TANKS

Photo: Neste Oil.

*Jet fuel Jet A-1, more commonly known as kerosene, is one of the basic elements of a successful flight. Every day, thousands of litres of kerosene travel through a careful supply chain from the Porvoo refinery to Helsinki-Vantaa Airport, as well as other airports in Finland. The final destination is an aircraft's tanks.*

**T**oday, the Finnish jet fuel market is shared by three suppliers: Neste Aviation, Shell Aviation and Avifuels – previously known as St1. The main playing field for all the companies is Helsinki-Vantaa, but each company also provides fuel at other Finnish airports. Shell's distribution network is the most comprehensive as it provides fuel at 17 other Finnish airports besides Vantaa. Neste delivers Jet A-1 at Joensuu and Kuusamo and Avifuels at Tampere-Pirkkala and Vaasa.

The total volume of jet fuel sold in Finland in 2011 was 931 million



**Pekka Lehtinen**  
ATR 42/72 co-pilot

litres, which means about 740 million kilograms. The majority of this was naturally delivered through Helsinki-Vantaa airport. For comparison, the amount of car fuel (gasoline + diesel) sold in Finland was 5 times bigger – around 5 billion litres. Because there are only three operators in the Finnish jet fuel

business, the Finnish Petroleum Federation does not publish any information about their market shares. It is estimated, though, that operations-wise, Shell performs about 60 % of all the refuelling at Helsinki-Vantaa.

## The contract defines the service

Fuel supply for airlines is always based on contracts made with fuel companies. By doing this, the fuel supply is always guaranteed at the negotiated price and service level. Only some pri-

vate business jets or general aviators might not have a contract and need to arrange their refuelling by themselves – at the list price of course. When it comes to airlines, an airline may have a contract with one or more fuel companies. For example, Flybe Finland has a contract with Shell, while Finnair is supplied by several companies in order to cope with any possible difficulties with any one supplier.

The negotiated service level may include “full service” or just a partial one – depending on what your company has bought. Just like fuel stations in the good old days, the full service includes everything related to refuelling, from plugging the hose into the plane to bringing the receipt to the cockpit. The more modest service only includes plugging the hose into the plane, while the crew have to use the fuelling panel on the aircraft. The first is the normal standard at Helsinki-Vantaa, but the latter is the more common service level at other airports. So it’s good to know how to use your plane’s fuelling panel when operating at other airports. And you probably should not expect a free windshield cleaning as an extra service either.

## The miracle of distillation

But let’s go back to the actual birthplace of jet fuel. All Jet A-1 supplied in Finland is produced in one place: Neste Oil’s refinery in Porvoo. Inside the biggest refinery in the whole of Scandinavia, Jet A-1 is produced for the needs of all. As Tero Salovaara, Technical Services Manager at Neste Oil, explains, regardless of the final fuel supplier, all the jet fuel comes from the very same refinery. Naturally, fuel is also sold to foreign customers according to demand. Jet fuel represents about 5% of the total production volume at the refinery. It is not much, but the way it is produced is strict and guided by several rules and guidelines.

Even though the experts at Neste Oil all agree that kerosene is one of the easiest products to make, there are many requirements set for the process and the

final product. The Bible of kerosene making is the Aviation Fuel Quality Requirements for Jointly Operated Systems (AFQRJOS) document – or simply the “Checklist” – which is the common agreement for all the major kerosene companies in the world that sets the standards for quality control as well as operating procedures for the whole process, and ensures that all kerosene, wherever it is made, fulfils the same criteria. In addition to the Checklist, kerosene making is also regulated by many other parties, such as the IATA guidance material, NATO standards, Customer guidelines and audits. All these guidelines put together set the standard for Jet A-1 and define all the details of the fuel, including appearance, composition, volatility, fluidity, combustion and corrosion, just to mention a few.

Juha Pentikäinen, Neste Oil’s Aviation Fuels expert, explains that the main idea in making Jet A-1 is rather simple. It is based on distillation. After receiving a ship or trainload of crude oil, it is first led to an underground storage area. From there the oil is pumped into the main distillation column, where the actual magic happens. As the oil is being heated, certain parts start to separate out at certain temperatures. For example, gasoline separates at very low (20 – 220°) and heating oil and bitumen at very high (330° and above) temperatures.

Kerosene belongs to the middle distillates and its separation temperature range is about 140 – 280 degrees. After being separated, the kerosene is led into the jet fuel unit, where it is passed through the merox reactor, water washing, salt dryer and clay treatment. In this phase, any sulphur in the kerosene is converted into an odourless and less harmful compound, and any remaining water, lye, impurities and particles are removed. After these treatments the kerosene is finally led to one of four production tanks, with only some electrical conductivity improver being added on the way.

The finished Jet A-1 is left to stand in sealed tanks for two days until samples are taken for final analysis to check that the product fulfils the standards. The specific content of the fuel batch is analyzed in the laboratory and a quality certificate is issued. If some problems appear later on, each fuel batch is fully retraceable. For delivery, Jet A-1 is finally pumped to the delivery tanks 2.5 kilometres away in the northern part of the refinery area. Here the fuel needs to stand for another 24 hours before it can leave through the gates.

## From tanks to trucks

Neste Oil’s responsibility ends and the customer’s begins in the delivery area. Every day, Avifuels, Neste Aviation and Shell Aviation drive tens of truckloads of Jet A-1 40 kilometres to Helsinki-Vantaa airport. Only Shell takes about 24 truckloads with a capacity of 55,000 litres each day – one truck per hour. With a little generalization, we can see that about 3 million litres of Jet A-1 goes along the Porvoo highway every day. A small part of the fuel continues on to other Finnish airports, but this represents just a fragment of all the fuel produced.

At Helsinki-Vantaa the trucks are unloaded in the airport storage area, but not until another sample of fuel is taken. At each unloading or loading a sample of fuel is measured for temperature and density just to check everything is still ok. In every loading, the fuel is also pumped through a water and particle filter to ensure it is as “pure and dry” as possible. Every company’s fuel storage is located in the south-eastern part of the airport near the threshold of runway 33, and they hold about 3 million litres of fuel each. According to Jarmo Haro, Shell Aviation’s Head of Operations, their storage is enough for approximately two to three days at normal consumption.

The airport trucks used for refuelling aircraft are very different from the “normal” trucks that take fuel from the refinery. Their general appearance is due to the re-





Without fuel there is no flight. With about 70 000 – 80 000 kilos a widebody flies to Asia or New York. This means about 1,5 – 2 truckloads. Photo: Pekka Lehtinen.

quirement to fit under most of the aircrafts' wings. That is why they are built low and wide. Their speed is also limited to 30 km/h; thus they would be quite a nuisance in normal traffic. At present, Shell Aviation operates with 9 trucks + 1 spare, Neste with 8 and Avifuels with 6. All the drivers have gone through careful training, including theory and field learning. Jarmo Haro from Shell Aviation states that all of their drivers have passed the same international training and have the same skills, regardless of their location around the globe. At other Finnish airports the trucks look more like normal trucks and the refuelling personnel are normally airport employees only qualified for refuelling by the fuel companies.

### It's all about FUEL

For Shell, the morning rush at Helsinki-Vantaa is from about 06.30 to 08.30. There are 6 men at work on

the morning shift, starting their duties with morning coffee, preparing their vehicles and refuelling them. The work is self-regulating; the men can decide themselves what to do and when. As long as all the planes are refuelled, everything is fine. Tomi Lahti, Superintendent at Shell Aviation, describes how you can easily do an eight-hour work shift with one truckload of about 54,000 litres by refuelling only ATRs - or you can refuel one A330 and that's it, your truck is empty and you have to go and spend about 25 minutes refilling it. Indeed, the refuelling amounts are very different.

A typical ATR fuel order is about 2,000 – 3,000 kilograms, while a wide-body can order up to 70,000 – 80,000 kilos. The biggest single order for Shell was the Antonov 124, that eventually got 172,000 litres. This happened at night, when Shell only had one person at work. When the morning shift came in, they found all the trucks empty and one exhausted man who had spent the whole night refuelling

one Antonov.

All the trucks are equipped with the FUEL system, which is common among the fuelling companies, Finnair and Finavia. Through its Finnair partnership, Flybe is also part of the system. In flight preparation, the flight crews put the fuel order into the system, after which it automatically appears in the display on the truck. The drivers can then share the refuelling tasks among themselves, while the handling companies only monitor the system. For the airlines that are not part of the system, the fuel orders are sent by radio to a handling agent.

The afternoon rush time is between about 15.00 and 18.00. For that, Shell has its maximum manpower at work with 9 men and trucks in the field. For long haul departures, one truckload of fuel (about 42,000 kg) is typically pumped into the planes before the actual fuel order, because the long hauls will need around 70,000 ki-

los anyway. When the order from the flight crew arrives, only final tuning has to be done. “The sooner we get the fuel order, the better for us”, says Tomi Lahti from Shell. And he doesn’t mean just the wide bodies but all aircraft. “By getting fuel orders as early as possible, our drivers can plan ahead and give an even better refuelling service”, he explains.

## Not for diesels

The normal users of jet fuel have typically been turbine-powered aircraft with either jet engines or propeller turbines. However, the arrival of diesel powered general aviation aircraft in recent years has meant small planes have also started to use Jet A-1. The experts at Neste Oil have a very strict attitude towards this: the specifications of Jet A-1 are intended for turbine engines, not for diesels. Hence there is no guarantee that the fuel is suitable for diesel engines. For example, the lubricity requirement for diesel engines is much stricter than for turbines and Jet A-1 does not meet that requirement – not even close. “Neste Oil does not recommend the use of Jet A-1 in any diesel engines”, says Juha Pentikäinen from Neste Oil.

To cope with the different kinds of special needs of some engine or aircraft types, some additives can also be used in jet fuel. For the needs of propeller turbine aircraft in particular, Shell offer their additive-enhanced fuel under the brand name “Aerojet”. With the use of this additive, the fuel can hold larger amounts of water and prevent some microbiological organisms and ice from developing. A collection of ice crystals, fungi, bacteria and mould can together or separately block filters or fuel pumps, thus preventing normal fuel flow inside fuel systems. Therefore, the use of an additive may be justified in aircraft sensitive to these issues. The FSII-additive is added to Jet A-1 in the refuelling phase from a separate tank in the truck and requires no further action. In the Finnish ATR fleet, Aerojet is widely used during the cold months of the year.

## Fuelling in the future

As emission issues have become more and more important, and because oil will eventually run out, the search for alternative fuel sources has been going on for years. In the early 20th century, synthetic oil was made from coal, natural gas and biomass via a gas process. Since those days, technology has made huge advances and the current method is to make bio oil from plants and other biomass. Making fuel from alcohols (sugar plant, for example) is also being developed, but this hasn’t really advanced yet.


Making jet fuel from bio oil isn’t so different to making fuel from crude oil. The only difference is how the oil is produced. While crude oil comes from the earth, bio crude is extracted from plants or is made from other biomass. From here on, the process is the same and bio crude goes through the same distillation process and other phases as normal crude oil.

There are many names for the finished bio fuel – there are hydrotreated renewable jet fuel and hydrotreated esters & fatty acids from bio oils, but probably the simplest name is renewable jet fuel, explain Juha Pentikäinen, and Kati Sandberg, a researcher at Neste Oil. In today’s market, Neste Oil considers itself the only serious European player in the market. As a matter of fact, there are only two major players in the whole world: Neste Oil and American Dynamic Fuels, who supply fuel in Europe through the Netherlands-based SkyNRG.

Even though many airlines ha-

ve experimented with renewable fuel, it seems that gaining media attention in environmental issues has been at least as important as testing the fuel itself. Probably the most remembered experiments are those by Lufthansa and Finnair. In 2011 Lufthansa operated the Hamburg-Frankfurt route with its A321 for six months using renewable fuel from Neste Oil. One engine was operated with 100% Jet A-1 and the other with a 50% mixture of renewable fuel. As a result, there were no problems throughout the whole test period. About 1% reduction in fuel burn was recorded and the ground test also showed fewer particles of smaller size in the air.

In Finnair’s case, the company operated one flight with a 50% mixture of renewable fuel from Amsterdam to Helsinki with both engines of the A319 using the same mixture. The fuel was delivered through SkyNRG, with a base at Amsterdam. According to media rumours, Finnair had also had discussions with Neste Oil but eventually ended up using the dutch fuel.

It is inevitable that the future will lead us towards more and more renewable energy sources in the field of aviation as well. Airlines and the entire aviation industry will eventually be forced to use fuel made from sustainable sources. At least Neste Oil is prepared. Meanwhile, we can continue flying on a daily basis with our traditional fuel, knowing that it comes from good hands. The whole supply chain confirms that the stuff is “pure and dry”. 

### Typical refuelling amounts:

ATR 72 Helsinki – Vaasa 1,500 kg  
Embraer 190 Helsinki – Gothenburg 4,500 kg  
Airbus A320 Helsinki – London 9,800 kg  
Boeing 757 Helsinki – Dubai 22,000 kg  
Airbus A330 Helsinki – New York 70,000 kg  
Airbus A340 Helsinki – Bangkok 80,000 kg





# History of HEMS

Scandinavian AirAmbulance is one of Scandinavia's largest air ambulance companies. It has 9 bases with helicopters and 4 bases with aeroplanes across Sweden and Finland. Scandinavian MediCopter operates with EC 135, EC 145 and AS 365 helicopters.

**Pekka Autere**, Base commander,  
Scandinavian MediCopter

*The first documented medical evacuation by helicopter occurred during the Second World War. In April 1944, a US Army Air Forces aircraft with three wounded British soldiers on board was forced down in the jungle behind Japanese lines in Burma.*

**T**he new US Army Sikorsky YR-4B helicopter could only carry one passenger, but, over 25-26 April 1944, four return trips were made.

When it comes to the development of Helicopter Emergency Medical Services (HEMS), many of the foundations were built during military operations during the Korean Conflict and Vietnam War.

In the late 1960s, the surgeon Hans

Burghart of the Municipal Hospital Munich-Harlaching, along with the ADAC (The German Automobile Club), developed a concept for improving the chain of survival with the addition of air ambulances. The concept was tested in three periods during 1968 and 1969 with a helicopter of the Bell 206 Jet Ranger type. The crew on board consisted of a pilot and a doctor.

On November 1, 1970, the first permanent civil air ambulance helicopter, Christoph 1 (helicopter type: Bolkow Bo 105), entered service at Harlaching Hospital, Munich, Germany. The crew included a doctor from the hospital, a pilot and a paramedic.

## HEMS in Finland

Ambulance helicopters were first organised by the Finnish Border Guard (1961-1991). In 1959 the Finnish Government made a decision to obtain helicopters for medical transport. The Finnish Parliament approved the initiative and reserved funding for two ambulance helicopters in the 1960

budget, and the Border Guard were granted the necessary funds to establish bases in Ivalo and Kajaani.

The operations started in 1961 and the Finnish Border Guard helicopters flew an average of 100 air ambulance flights per year in the 1960s. One of the first Ambulance Helicopters, OH-HRC, is on display at the Aviation Museum of Central Finland in Tikkakoski.

The first Jet Ranger, OH-HRD, was delivered to Finland in 1969, and a total of 7 Jet Rangers served the Finnish Border Guard over the next 40 years. At the same time, new helicopter bases were opened, and in the 1970s and 1980s the Border Guard operated helicopter bases in Helsinki, Turku, Vaasa, Immola, Kajaani, Rovaniemi and Ivalo.

As of 1981, the Finnish Border Guard started to focus on SAR missions, mainly offshore SAR, starting with the Mi-8 and following with Agusta Bell 412 and AS 332 Super Puma helicopters. Today, the SAR missions in Finland are mainly flown by Finnish Border Guard helicopters

and the HEMS and Air Ambulance missions are mainly flown under a contract with FinnHEMS.

### HEMS organised by Rescue Helicopter Foundations (1992-2012)

The first permanent civil HEMS helicopter in Finland, Medi-Heli 01, started operations at Helsinki Malmi Airport in 1992. The first Medi-Heli helicopter type was an AB 206 Long Ranger, and soon after the beginning of operations, the Medi-Heli base moved to Helsinki-Vantaa airport. From 1994 to 2005, Medi-Heli used an MBB Bo 105 helicopter, and after that they flew an EC 135. The first Rescue Helicopter Foundation was named "Lääkärihelikopterin Tuki ry", later renamed "Pro Medi-Heli ry" and finally renamed "Medi-Heli ry".

There were initially three Medi-Heli helicopters operating in Finland, Medi-Heli 01 (Helsinki), Medi-Heli 02 (Turku) and PETE (Vaasa). The Medi-Heli concept was partly financed by grants from The Slot Machine Association (RAY) and partly by private funds from individuals willing to support air ambulance operations.

The HEMS concept spread in Finland, and during the 90's Oulu, Varkaus and Sodankylä established their own operations. The focus was on medical tasks, but they flew also SAR and fire fighting missions. They were named SEPE (Oulu), ILMARI (Varkaus) and ASLAK (Sodankylä).

### HEMS in Finland - organised by FinnHEMS (2012-2022)

The Finnish rapid-response ambulance helicopter operations in the years 2012-2022 are being run by FinnHEMS Oy, a non-profit corporation owned by the University Central Hospital Districts. The ambulance helicopter operations are being financed with a State subsidy, and a total of EUR 22.46 million has been earmarked for the purpose in the 2012 budget.

The ambulance helicopters operate around the clock, and are obliged to have back-up systems as the operator can only be off-duty up to 24 hours

per month and the maximum uninterrupted break can only be six consecutive hours. The ambulance helicopters are equipped so that the treatment of patients can be started in the chopper en route to a hospital.

The bases for the six rapid-response ambulance helicopters are at Rovaniemi, Oulu, Kuopio, Tampere, Turku, and Helsinki-Vantaa.

The Board of Directors at FinnHEMS Oy has chosen Skärgårdshavets Helikoptertjänst Ab to act as their HEMS operator at the southern Finland bases situated in Vantaa, Tampere and Turku, and Scandinavian Medicopter Ab – a part of the Scandinavian AirAmbulance group – to act as their HEMS operator at the northern Finland bases situated in Kuopio, Oulu and Rovaniemi. The FinnHEMS contract period is 10 years (2012-2022).

Skärgårdshavets Helikoptertjänst Ab (SHT) is a Finnish company, fully owned by Wiklöf Holding Ab, which specializes in HEMS and Air Ambulance flights. SHT started the HEMS and Air Ambulance operations on the island of Åland in 1990, acquiring the first civil twin-engine helicopter of the Messerschmitt Bölkow-Blohm BO-105 CB type. This helicopter served until 2005, when the fleet was replaced by Eurocopter EC

135 P2s. SHT's fleet today consists of four EC 135 helicopters. One is situated at the HEMS base in Helsinki, one at the HEMS base in Turku and one at the Air Ambulance and HEMS base in Mariehamn, Åland. The fourth helicopter is used for pilot and HEMS crew training and also acts as a backup for the three bases. SHT will soon open a new HEMS base at Tampere.

Scandinavian AirAmbulance is a Swedish company operating with two Air Operator Certificates (AOC): Scandinavian MediCopter for the helicopter operations and Scandinavian AirAmbulance for the aeroplane operations. The commercial name for the entire Group is Scandinavian AirAmbulance.


SAA, with its bases spread across Sweden and Finland, is one of Scandinavia's largest air ambulance companies. SAA started operations in 2001 with two helicopter bases in Stockholm and Östersund. Since then, 9 bases with helicopters and 4 bases with aeroplanes have been added across Sweden and Finland. Scandinavian MediCopter operates with EC 135, EC 145 and AS 365 helicopters. The aircraft types SAA uses are Learjet 35A and Beech Super King Air 200. 

Photo: Pekka Autere





# NO MORE SITTING NEXT TO A STRANGER

*Airlines everywhere have embraced social media as a powerful marketing and communication tool. Our social media-savvy contributor dove in to bring you some of the most recent developments from the world of web, wings and... dream seatmates!*

For many of us, the world of travel is also the world of discovery. We fly to new destinations to see beautiful places, taste delicious foods and meet exciting people that were all previously unknown to us. Today, that could even begin well before boarding the plane itself.

KLM recently introduced a brand new way of making their customers' flight experience more social – and potentially much more exciting. In January, the Dutch airline rolled out its new Meet & Seat programme, where long-haul flight ticket buyers will be able to display selected information from their Facebook and LinkedIn profiles to other passengers before the flight. The idea is that there might be other people on board with similar interests and preferences that they could then meet on the plane. Participating passengers can then select their seats and – ideally – have a wonderful flight getting to know their interesting seatmates, make valuable contacts and even share a taxi at their destination.

While Meet & Seat may sound like



a dream come true for a socially active and open person, the innovative programme has also met with criticism. Many people have raised a concern about abusing privacy. KLM has, indeed, chosen wisely to let participating travellers see other people's profiles only after they've selected to join the programme themselves and revealed their own profiles to others.

Despite this, many risks remain. A venture capitalist may deeply regret revealing his occupation online when the start-up entrepreneur seated next to him flips out the twenty-first slide of his well-prepared sales pitch. Likewise, participating in the programme may result in you finding yourself in the awkward situation where you've chosen to sit next to a per-

son with a wonderfully interesting social media profile only to find that you really can't stand his breath. And he wants to talk to you a lot.

Another thing that concerns the customers is the airline's access to their social media profiles. KLM has pledged that it will never share the participating passengers' profile information with third parties nor use it in their own customer profiling. The airline promises to delete all information shared by the users two days after their arrival at their destination. However secure that may sound, there'll still be some people who will choose to opt out just because of the risk of leaking personal information.

Another "social seating" programme, albeit a more limited one, was introduced by Malaysian Airlines last year. The programme, called MHBuddy, is basically a Facebook application that lets users buy their tickets and check in for their flights on Facebook. Simultaneously, the app gives the opportunity to share information about your flights with your Facebook friends. It also notifies you if any of your friends are on the same flight, lets you select your seats together and tells you if any of your friends happen to live in or be visiting your destination at the same time.

A small number of airlines have previously attempted to create proprietary social networks for their passengers – including Virgin Atlantic and Lufthansa. For one reason or another, none of these has yet succeeded in truly establishing themselves on the market. Many travellers have been put off by the idea of having to sign in to yet another social network. As Meet & Seat and MHBuddy both use well-established and highly popular platforms, they may have a better chance of becoming another important piece of the air traveller's virtual tool kit.



# TRAVEL SHOULD BE MORE PLAYFUL & FUN

**Matias Jaskari**

*I met Anna-Kaisa Varamäki, Finnair's Social Media Manager, at the company headquarters on the eve of 1st May, or Vappu as it's known among Finns. Vappu is a major carnival in Finland and Aku appeared wearing an exquisite piece of head-gear - but more of that later.*

**Which of the various social media (SM) applications is Finnair currently active on?**

"Our main social media channels at the moment are Facebook, Twitter and YouTube. We are also active in blogging, of course. We have added Pinterest to the mix quite recently and are also just launching our first Foursquare campaign during the Ice Hockey World Championships in Helsinki and Stockholm. As China is considered a valuable growing market for us, we are also present on local SM channels there, such as the hugely popular microblog Sina Weibo and Youku, the local equivalent of YouTube."

**What's your vision of social media at Finnair in the near future?**

"What I'd see as an important development from the customer service perspective would be to link customers' SM profiles and flight details together, so when the customer con-

tacts us via Twitter, for instance, their flight information would instantly be visible to our customer service. That would make providing a tailored service for each individual customer much easier."

"I see that interaction between the crew and passengers could also be improved with social media. Introducing the crew to the flight's passengers online could be an interesting thing to try. Then there are other ways to personalize people's travel experience. Checking in virtually in the lounge could result in good journey wishes from our SM staff and would certainly delight passengers and offer them personalized contact with our company."

"I think it would be a good thing for the brand to make the travel experience a bit more playful and fun. The business we are in is quite favourable for social media applications because, inherently, many people really like to share their travel experiences with others."

**Do you feel that enriching customer experience with services such as KLM's Meet & Seat is important?**

"We did look into a somewhat similar programme, but are not currently planning to develop anything like that. I'm sure that kind of service would be nice for some of our customers, so that is probably one direction our SM services will continue to develop towards. There are, of course, certain privacy risks associated with introducing services like Meet & Seat, so we have to be quite careful there. I think people prefer sharing their travel plans and experiences with their existing networks of

people rather than strangers, although airports and aeroplanes can be interesting places for people to meet. As an airline, we should make this as easy and fun as possible."

**I have to ask you one more question here. What on Earth is that thing you're wearing?**

"Oh, my hat? It's a tradition among us at Finnair to celebrate The Hat Parade on Vappu Eve. It's a wonderful opportunity to surprise and cheer up your colleagues and customers with a carnival like this. This is my humble contribution and it's not even close to being the most outrageous. There's a colleague of mine whose hat is so huge I could hide behind it! And, by the way, the pictures from the Hat Parade are a big hit on Facebook!"







# FRIENDS IN HIGH PLACES DOWN UNDER

I recently had the pleasure of being in contact with August Håkansson, my old IFALPA friend from Iceland. We used to meet at many IFALPA meetings in the 1990s and found ourselves to be two of a kind (as pilots usually are). I heard that August has recently been flying “down under” in Papua New Guinea. For me and my Finnish pilot colleagues, that sure sounds exotic enough, so I got August to share his experiences down there.

As this is an intriguing article, it is also a great opportunity to tell pilots around the globe that the IFALPA work, friends and colleagues carry on for a very long time. Our pilots’ community is of a rare kind my friends. Keep up the good work, and let’s be careful out there!

**Heikki Tolvanen**

**August Håkansson, Captain**  
Icelandair

Out of the left window lie the two main landmarks of the city, floodlit in the darkness - the Harbour Bridge and the Opera House. We are just over 6 nm out on the ILS for runway 16R at Sydney’s Kingsford-Smith International Airport on a beautifully clear and calm evening, and the view is magnificent.

Places that not long ago were to my mind almost as distant as the moon are now part of everyday life. Sydney, Brisbane, Hong Kong, Manila, Singapore and, previously, Fiji and the Solomon Islands. My world has suddenly shrunk

- except when flying the aeroplane from Iceland to Papua New Guinea (PNG). It’s a long way: 7,500 nautical miles from Reykjavik to Port Moresby. The way we flew it, via Sharjah and Manila, 9,580 nm; 23 block hours.

## North Meets South

Papua New Guinea? Why? Eight Icelandair pilots along with mechanics and a Cabin Supervisor are operating a B757-200 on a damp lease (ACMI – less cabin crew) to PNG’s national airline Air Niugini for 8 weeks while two of their 767s are in for maintenance. We have a history of working with them; from late 2007 until the end of 2008, four crews at a time were based

here with a 757. They are also dry leasing three B767-300ERs from a sister company, and our maintenance organization is in charge of the maintenance of those as well.

Setting up this kind of operation and getting it underway requires hard work by many individuals in the company, but within Icelandair we are pretty seasoned in doing this and things are up and running quickly. The cabin crew are provided by Air Niugini. They are experienced people and easy to work with. The sector lengths we fly are from 3-6 hours, about the same length as the average sectors we fly back home, and we have a layover at all the destinations.

The assignments for this operation were awarded based on seniority, and it

did not go far down the seniority list before all the available positions were taken. Back in 2008, most of us who took part in this operation had our families in Cairns, Australia, and spent our days off there, commuting to work. A great opportunity in our careers. Time difference is an issue though when communicating with the family or company back home; being at UTC +10, most communication takes place either early in the morning or late in the evening.

PNG is on the eastern part of the Island of New Guinea. The western part is called West Papua and is ruled by Indonesia. The island is the second largest in the world after... well, if you work for an airline, you should probably know, Greenland. The country became independent from Australia in 1975 and is home to about 8 million people, most of whom live in rainforests on this volcanic island with mountains reaching close to 15,000 feet. There are about 800 tribes and just as many languages or dialects. For us, coming from another volcanic island, this one is no less active, with 60 active volcanoes in the north, part of the Pacific Ring of Fire.

The beauty and biodiversity of the nature is amazing and almost every kind of natural resource you can think of can be found in this vast area. The nature is no less amazing underwater, with some of the best diving spots in the world around the island. The climate is comfortable with a seasonal temperature change from 28-31°C. The human life is also interesting and PNG is the promised land for anthropologists studying the various tribes throughout the country. There are the occasional skirmishes and security is an issue to be taken seriously. The economy is two-fold: the monetary system of the larger cities and towns, and the subsistence farming and barter economy of the rural areas. Life in this potentially rich country suffers from the usual corruption and politics of many third-world nations. Poverty is rampant and so is crime, although locals are more of a target than foreigners. But care and common sense must prevail when out and about. And an armed escort is required at night.

### Bird of Paradise

Jacksons Airport in Port Moresby is bustling with activity every day; a

mountainous country with limited roads demands that a lot of passengers and cargo is moved by air. It is a tough country to fly in, with runways enclosed in valleys, on the sides of mountains, and some even on a slope, where you land uphill and take-off downhill.

Scores of helicopters, small twins and turboprops up to Q400s are the workhorses of the domestic fleet along with Air Niugini's ageing Fokker 100s. Inevitably, there have been some serious accidents. Some destinations can only be flown to during daybreak as cloud cover develops quickly over the mountains and valleys after sunrise and there are only visual approaches. With terrain up to almost 15,000 feet, that also means contingency procedures in place should we lose cabin pressure when flying along the mountain ridge.

There are interesting variables flying into Australia too. Accent aside, their ATC phrases are different, but the ATC seems very structured and it works fine. They may not be much into giving direct clearances but they are very efficient. One example of the difference is on the ATIS for Brisbane, where they report crosswind separately, probably when it exceeds a certain value. Getting the wind reported as "Runway 19 wind 160°/10 kts – crosswind 14 kts" makes you look at your colleague and say "what?" Maybe the math is different down under.

Living in the hotel compound at the

five-star Airways Hotel overlooking Jacksons Airport, we are pampered. And by flying to the exotic destinations I mentioned earlier, Oceania and Asia-Pacific are no longer distant. The Pacific is as normal as the Atlantic. The weather is different, but it carries its own challenges every day - no snow or high winds, but a CB sitting right on your track, demanding a deviation to circumvent it, is an everyday occurrence. HF radios, the marvellous 20th Century technology, are extensively used to send position reports or get clearances for weather deviations. And if the tropical rain is nothing like the horizontal rain we are used to in windy Iceland, it is somehow wetter.

Air Niugini's logo is a stylization of a local bird, the Bird of Paradise. The airline's history goes back to 1973, when it started with DC-3s. It is being run by both locals and ex-pats with ambition and pride. Ex-pat pilots, most of whom are Australians, tend to stay with Air Niugini for a long time; some have been here for their entire careers. For this short lease, our plane, TF-FIC, is all white without the sporty trim of Air Niugini. But this 2000-vintage 757 is running like clockwork. It's our Bird of Paradise.

(The author is a captain with Icelandair. Flying for them since 1984, he still fondly remembers his first training for the Fokker F-27 in the old procedure trainer at HEL.) **L**







# HALIFAX

## - ATLANTIC CANADA AT ITS BEST

*Where to start, where to end? This article will have a touch of sentimentality in it, as Halifax has been a second home for Finnair's B757 crews since the winter of 2005-06. For the past six winters we have been flying holiday passengers to Caribbean destinations through Halifax and most of our 757 pilots and cabin crew have spent nearly a half year of their lives over there. So bear with me while I shed a few tears on the page...*

### Heikki Tolvanen

The original inhabitants of Halifax were the Mi'kmaq people, or the aboriginals of north-eastern Canada. In 1749 the British founded the town of Halifax and through some violent times it established a position as the major north-eastern stronghold in Canada.

Halifax has played a big role in Canadian history as about a million immigrants entered Canada through Pier 21 at Halifax harbour between 1928 and 1971 – the facility is also known as the “Gateway to Canada” or the “Ellis Island of Canada”. Halifax has also been a major aviation and naval centre for decades and The Royal Canadian Navy's Atlantic

Fleet is headquartered and home ported at Halifax.

### Tragic events but great seafood

Halifax has carried a tragic burden in its history, as it was the first place to which survivors and victims of the Titanic were taken one hundred years ago. December 6th 1917, actually the very same day that Finland got her independence, became the day of the largest man-made explosion prior to the atom bombs. A French ammunition ship exploded in Halifax harbour, devastating the city and causing the deaths of 2,000 inhabitants and injuring another 9,000. The Swissair MD-11 accident in 1998 also occurred

just southwest of Halifax in the cold waters off Peggy's Cove, where there is a monument to the 229 people who perished.

Today, Halifax is the largest population centre in Atlantic Canada and, with 390,000 inhabitants, the largest city in Canada east of Quebec (Halifax Regional Municipality). Halifax is a major economic centre with a large concentration of government services and private sector companies.

As a university city, the nightlife in Halifax is superb - Halifax has more bars and restaurants per capita than any other city in North America, so airline crews congregate there like fish in the (Atlantic) sea, which reminds me of the superb seafood served in the numerous restaurants. We have carried tens of tons of live lob-

ters in the bellies of our 757s back home and beyond Finland.

The Haligonians are very hospitable people and always make our crews feel at home. One of the most famous Haligonians is Sydney Crosby, a Pittsburgh Penguins icon of ice hockey.

I have to point out one similarity between Nova Scotians and Finns: the flag of Nova Scotia has a blue cross on a white background and a red lion on a yellow herald – almost identical to our flag colours, except Finland has a yellow lion on a red herald!

## Aviation museums

Halifax is home to two compact, but interesting, aviation museums that illustrate the long and glorious history of the Nova Scotian aviators and their aircraft.

### Shearwater Aviation Museum

The aviation museum at Shearwater concentrates on preserving the history of Canadian Maritime Military Aviation as it evolved in Shearwater. The museum was founded in 1978 and struggled with the same challenges as many aviation museums – limited space. In 1995 and 2001 the museum had two expansions, which were warmly welcomed.

The museum is very well kept and clean. It consists of two main halls with a collection of 11 aircraft – rarities include a Swordfish, a Grumman TBM-3 Avenger and a restored and soon-to-fly Fairey Firefly. The Piasecki HUP-3 and Sikorsky HO4S-3 “Horse” helicop-

ters are testimonials to the strong rotary wing history in Shearwater.

The museum also has interesting RCAF and Naval exhibits, including the aircraft carrier HCMS Bonaventure, interactive exhibits, an aviation art gallery and, of course, a nice gift shop. The museum staff are very attentive and friendly, so it has always been a pleasure to pop in for a stroll and chat with the gents restoring the “crown jewels” of Shearwater.

The history of the Shearwater aerodrome dates back to August 1918 when Lieutenant R.E. Byrd of the United States Navy (later to become an Admiral for his polar explorations) established a United States Naval Air Station at Halifax to help the Canadians patrol German U-boats attacking the convoys to Europe. The first two HS-2L seaplanes arrived at Dartmouth air station in Halifax by train on 17 August. The first aircraft flew two days later and the first operational patrol was flown on 25 August 1918; maritime patrol aviation in Canada was born.

The Shearwater aerodrome is the second-oldest military aerodrome in Canada. Dartmouth RCAF Station served as the largest seaplane and landplane base in Eastern Canada in the 1930s and 40s, and after the Second World War it was turned over to the Navy and renamed HCMS Shearwater. The fixed and rotary wings flew from Shearwater hand in hand from the early 1950s until 1995, when the base became solely involved with Sea King operations. Today, the Shearwater Heliport hosts the operations of 12 Wing, a unit of the RCAF that provides the Royal Canadian Navy with maritime helicopter services.

### Atlantic Canada Aviation Museum

Just next door to Halifax Stanfield International Airport is the largest aviation museum east of Ottawa – the Atlantic Canada Aviation Museum. It was established in 1977 by local aviation enthusiasts and moved to its present location in 1986. It has remained a volunteer organization and is strictly non-profit-making. ACAM preserves all aspects of Atlantic Canada’s aviation heritage, both civilian and military, which began with the first powered flight in Canada and the British Empire in 1909.

ACAM consists of two hangars with 26 aircraft. The museum staff have done a great job in gathering together a variety of aircraft flown in the Atlantic Canada region. Rarely seen specials include the Avro CF-100 Mark 5 Canuck interceptor/fighter, a PBY-5A Canso (=Catalina) restoration project, a Lockheed Jetstar that flew the Canadian Prime Ministers and a beautiful replica of the Silver Dart. In addition to the aircraft, ACAM presents an original V-1 Flying Bomb, several aircraft engines, two simulators, aviation artefacts and a museum store. The museum is a bit tightly packed, but everything is nicely accessible. I also liked the opportunity to see the on-going restoration projects. It brings the hard work by the volunteers right in front of your eyes and makes you appreciate their work even more. As the museum was closed for the season in March, I was kindly helped by two of the volunteers (Colin and Dave) and given a personal tour of the museum. Thank you Gents! **L**





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