

# The CIO and his flying computers

Running an airline company today has striking resemblance to managing a server farm. Gigantic flying computers sign in and sign off to the network, while passengers and crew connect via their handhelds.



**PICTURE**  
Hans-Petter Aanby,  
CIO and Vice President of  
Business Development at  
airline Norwegian: "The  
secret lies in the small  
things."

So there may be some logic to Hans-Petter Aanby's apparently conflicting roles in the airline Norwegian: he is both CIO and Vice President of Business Development.

The fast-growing airline Norwegian has a long record of disruptive innovations. They taught the Norwegian people to shop online. They were first out with paperless tickets. They were for a while the world's largest airline on Facebook, and they have

spun off a mobile phone company and a bank as natural supplements to carrying passengers through the air. Information technology is vital in all this, and many would say that CIO Aanby single-handedly helped raise an aging industry to a new, contemporary level.

Norwegian is the story about an airline that grew from being a small 'local route' on the west coast of Norway in 1993 to one of Europe's largest airlines today. When SAS Braathens merged at the beginning of the decade, a window of opportunity arose. Norwegian started their own domestic routes. After that, we saw rapid growth. As of July 2011 Norwegian had 59 aircraft operating 261 routes to 100 destinations. 13 million passengers travelled with the company in 2010, supported by the company's 2,500 employees. And it is all about innovative cost control combined with taking out small and large gains through technology.

"When you build an industry in a price sensitive market like this, you have to think about costs all the way", says Aanby. "In October Norwegian announced great financial results. What many do not see is that the margin is only 3.2 percent. It means that if we are able to save 3 million, we can sell for 100 million less. With a turnover of 10-11 billion it is not that difficult to save 30 million. It means that we can sell for one billion less and still maintain the same margins."

"We have no choice, we must be innovative", says Aanby. "We are competing with the world's cheapest flights and operate from a country with the world's highest costs. While labour costs in Europe fell by 20%, they rose in Norway by 5%. Norwegians are amongst those countries with the highest leave of absence."

The aviation industry as a whole has faced many challenges in recent years, like the financial crisis, volcanic ash from Iceland, the Arab spring, tsunamis and new financial crises.

## Small things

"The secret lies in the small things", says Aanby. "Do not start with the big, sweeping projects that do not produce results until after many years. Start out small, motivate and support the employees to find ways to do things easier and faster every day. An example is our baggage handling. When you are by aircraft handling baggage and find something you need to check, the way back to the computer screens are long. Laptops are not an option, they have poor battery life and the start up is too slow, the plane has landed before you have even logged into it. The solution that staff came up with, were iPads. With an iPad staff can look directly into

the computer system from where they are. The iPad starts right away, and if there is no wi-fi coverage, they go on 3G. We saved big with this small hand grip."

Norwegian has created a culture of innovation in the company, and much of this is about giving recognition and room for small innovations in everyday life. Those who should be honoured, receive their honour. In this case the story was published on the intranet. It gives pride and inspires others to do similar things. Another example of innovation in everyday life are the hand-held terminals that cabin crew use when selling food and drinks to the passengers. "We made some small changes to the screen and the price structure and saved 40% sales time", says Aanby.

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#### Investment instead of cost

The major project at Norwegian now is to get all the planes up on wi-fi. "The passengers expect to use their own screens. Their screens are what pen and paper used to be. So we give them that." Norwegian has turned the costs of wi-fi on all flights to an investment. This infrastructure allows passengers to check mail and surf the web while Norwegian uses it to communicate more efficiently between personnel in the aircraft and the ground. "This is very interesting. Until now, communication between the aircraft and the ground was like 'telex food', like telegrams. Now we are experimenting with transferring data and run IP telephony. Pilots and cabin crew should be able to talk to the ground staff. An example is that if we get a cardiac arrest on board, we can talk directly with medical personnel on the ground."

"So back to the pilots", says Aanby with excitement. "All the data we have in the so-called 'black box' is detailed down to a level that allows you to take them in a flight simulator and play the entire trip Oslo-Bergen afterwards. You can see everything that happened, including

what the instrument panel showed. When pilots see that there is something wrong with the aircraft, they can send the data down to the engineers. This can be played with a few seconds delay, and troubleshooting can start while the plane is in the air. When you arrive, you simply replace the component that is not functioning optimally." Only these things make the investment in wi-fi pay for itself in greater efficiency. But the really big gains are in the future. "The biggest benefit of wi-fi is on the operational side. When employees have the opportunity and the right tools, they become creative. We have just sent out about 100 iPads in the organisation, just to see how people receive them. What we see is that the learning threshold is very low. The latest Citrix solutions handle the security required when they are on the company's own data, and they can use other parts of the iPad as they like."

"It is all about the little things", Aanby repeats. "Reap small gains, create mastery, create excitement, and create confidence so it is possible to take responsibility at all levels."

#### Flying servers

CIONet encourages Aanby to take a look into the crystal ball, not only on behalf of Norwegian, but also on behalf of the entire industry. "The next big trends are globally controlled. When we get into the new Dreamliner 787, the world is quite different. From then on, our task is to fly the planes, which strictly speaking are flying servers. When they were testing Dreamliner, there were two pilots and 30-40 IT people monitoring everything that happened. When these aircraft land at an airport we take them into our network domain as a server. People in Seattle monitor the planes and do all the engineering with the help of local people at the airports. 'Screws, bolts and wires' are replaced with software."

Finally, we ask the question that many air travelers have questioned: is there really any danger in using the mobile phone during the flight? "No, there is not. This is based on rigid international regulations that will not change unless we are certain multiplied by ten thousand. But do it anyway, I put it in airplane mode and turn on wi-fi", says Aanby. ■