

Erik Moberg:

The Judgment against Hakan Lans - A Planned Judicial Crime?

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The Judgment of September 6, 2001

On September 6, 2001, the American District Court for the District of Columbia pronounced an extraordinary judgment.¹ As the final result of a long process the Swede Hakan Lans (in Swedish his first name is spelled Håkan) was sentenced to pay not only his own attorney fees, but also those of his opponents. This was remarkable since the main rule in the US is that the parties to a civil dispute pay their own costs. But the

judgment was also remarkable since it was the sole result of a process which started as a patent infringement case, but in which the infringement issue was never addressed. It concerned the color graphics being used in all computers around the world, and Hakan Lans, the plaintiff, owns the patent for this technology. Since the total sum of all the attorney fees was very high it was proposed, as a settlement, that Lans should give up all his rights, not only to his present inventions, but also to all future ones. Among those was, although not explicitly mentioned, a position indicating system patent of revolutionary practical and economic importance.

The judgment was thus catastrophic for Lans. But, besides that, how else can it be characterized? It is possible to formulate three hypotheses about the nature of the judgment - three hypotheses which, essentially, cover all logical possibilities. There are hardly any other interesting hypotheses. The first hypothesis is that the judgment was correct and in due order - justice was done according to prevailing US law. As we will see, the support for that hypothesis is weak, indeed. But if the judgment was not correct, why then did it get the nature it got? Perhaps the judgment was a result of lacking skill on the part of Lans's attorneys - an accident in work? This is the second hypothesis. There is however not, as we will see, much support for this hypothesis either. And that leaves us with only one remaining possibility, that the unjust judgment was intentional. Or, in other words, the judgment was the result of a planned judicial crime. This is the third hypothesis.

These three hypotheses will be discussed in the following. The discussion presupposes, however, some knowledge about the early history of the color graphics, and about Lans's position indicating system. Therefore I start with these matters.

The color graphics until 1995 - the Hitachi process

The color graphics technique used in all computer monitors today is based on Hakan Lans's patent. The US patent for this technique was issued in 1981. The patent's number, in the register of the U.S. Patent and Trade Mark Office, is 4,303,986, and therefore it is often called the 986-patent.² Originally, since it was not obvious how and where the technique could be used, the patent was to a large extent ignored. Lans had developed the technology before the advent of the personal computers, and for another purpose. With the arrival of the personal computers, however, the technology, and the patent, became, all of a sudden, of utmost importance.

Japanese Hitachi was one of the companies, which, at that time, without having a license, started using the technology. Therefore, in 1985, Lans and his lawyers initiated a patent infringement process. The company sued, however, was not Hitachi itself, but rather a German company, Miro, which delivered the relevant components to Hitachi. Therefore the process happened to take place in Germany. Soon enough however, in spite of Miro's role, Hitachi and Lans stood against each other, as the main combatants, on German soil. Finally, after a long and costly judicial process, Lans obtained, in 1995, a satisfactory and favorable settlement.

The success was to a large extent facilitated by the fact that IBM, in 1990, voluntarily acknowledged Lans's property rights and signed a license contract. This

contract was important since it emphatically recognized Lans as the creator of the technology. Later on, however, the contract should gain importance for another very different reason. For tax reasons, the supplier of the license was not Hakan Lans himself, but rather the joint stock company Uniboard AB, wholly owned by Hakan Lans. Therefore, and since the agreement with IBM, there existed a dualism between the physical person Hakan Lans and the juridical person Uniboard AB. Eventually that dualism should prove to be crucial in the American process.

In 1995, though, after ten years of litigation, the important result was that Lans had obtained a favorable settlement with the big computer companies Hitachi and IBM.³

The position indicating system

Simultaneously with the progress of the color graphic lawsuit in Germany Lans developed a revolutionary position indicating system. In 1981 he had the basic idea. The point of departure was the American GPS system (Global Positioning System). This system, as we know, enables an actor, with a proper receiver, to determine his or her position. The pilot of an aircraft, or a sea captain, is given the exact position of the vehicle in all three dimensions: latitude, longitude and altitude. Now, things being like that, would it not be possible, thought Lans, for different actors to communicate their positions to each other? If so, the drivers of all vehicles, such as aircraft or airport ground vehicles, which are close to each other in a certain surrounding, will know each other's positions. Furthermore this knowledge may include not only the positions of the vehicles, but also their identities, track and speed. In addition to this, all this information could be displayed on a monitor. In that manner it would be possible for all the pilots, and other drivers involved, to see all other actors around them in about the same way as car drivers, or pedestrians, in common traffic see their co-actors around themselves. They would not, as for instance the pilots today, since they to a large extent are unable to see other vehicles directly, be constrained to navigating by radio beacons or instructions from air traffic control personnel.

The technology needed for the vehicles' communication with each other was however not available. Since the vehicles may move rapidly the messages must be very frequent, and all the vehicles must also use the same radio frequencies for the information exchange. Therefore, and since the actors must not interfere with each other, the time has to be divided into very small parts, usually called time slots, which are distributed among the actors in such a way that, at any particular moment, only one of them is transmitting. To be sure, there did exist at the time we are talking about, a system fulfilling these requirements so far, namely the TDMA-system (Time Division Multiple Access). This system was however severely limited by being dependent on base stations on the ground. Therefore, and since Lans had a vision of a worldwide system, including vast oceans and large unpopulated areas without infrastructure, TDMA would not work. The dependence on ground stations had to be eliminated.

The technology achieving this was Lans's great invention. His system was self organizing and therefore called STDMA, where the "S" stands for "Self-Organizing". But even though the step thus taken was expressed by adding a single letter, it was a gigantic

step. It is one of the really great inventions of the 20th century. Lans development work, from the original idea to a final working product, was time-consuming, but after ten years - on July 1, 1991 - he filed his first application for a patent, at the Swedish patent office. The application for a US patent was filed on December 23, 1993, and the patent was issued in 1996 (US Patent nr 5,506,587).⁴

Even if the color graphics patent was great in terms of technological inventiveness and economic importance, the position indicating system patent was far greater in both respects. With Lans's system, the safety in both aviation and shipping could be significantly enhanced. For aviation, in particular, it is important that various kinds of ground vehicles, which are busy in airports, adding to the collision risks, could be included. A number of aviation accidents during the last years could, in all probability, have been avoided, had Lans's system been in place - the Milan/Linate and German/Uberlingen accidents are two of several examples.

Captain Tore Granaas is a man with a thorough knowledge of these matters. He is a former Captain with the Scandinavian Airlines System, where he served for 40 years. His experience includes 14,000 flight hours. In addition to this he has been the Chief Safety Officer and Director of Operations at the international aviation organization IATA (International Air Transport Association). An article in the Swedish daily newspaper "Svenska Dagbladet" in May 2004, in which Granaas was interviewed, contained the following lines:

"When the Linate accident is mentioned Granaas becomes moved. He is bitter that the aviation industry has not adopted Hakan Lans's system for communication, navigation and surveillance, and he contends that the system would have prevented the accident, which took the lives of 118 human beings, in Milano 2001.

- I could never have believed that there was so much politics, and intrigues, in the aviation industry. I thought, naive as I was, that I [working in IATA] had the responsibility for improving aviation safety in the world, but in this case other interests were more powerful. The system would disturb other designers and producers of aviation systems, and it is still just being discussed."⁵

Enhanced safety is not the only beneficial effect of Lans's system. In aviation, in particular, it would also give rise to great economic savings. The need for expensive radar installations and navigation systems on the ground would be considerably reduced. Furthermore a considerably greater density of aircrafts in the air than today would be possible, which is important, since the airspace with current systems and procedures is overcrowded in many parts of the world.

So called "free flight" would, for instance, be possible. When an aircraft is flying from one place to another - say from London to Chicago - there is always an optimal route determined by, among other things, the air route structure and the meteorological conditions at the time of the flight. Therefore, all aircraft flying a particular schedule should, ideally, be able to fly the optimal route and altitude. This is not possible with current route structures, separation minima and with pilots not knowing anything about surrounding traffic. The collision risks would be unacceptable. With Lans's system free flight would be possible in the sense that the preferred trajectory could be used and

separation minima reduced since all aircraft would know the position and intent of all other aircraft. Another important thing is that today's queues of aircraft, circling in holding patterns above airports, waiting for landing permission, would be substantially reduced. All this would lead to great savings in time and aircraft fuel.

It is impossible to tell exactly the size of the total savings regarding equipment, fuel, time, etcetera, which would follow from an introduction of Lans's system. Clearly, however, it amounts to many billion dollars per year.

The color graphics 1995-2001 - the American process

The beginning

Now, going back to 1995, we remember that by that time Hakan Lans had obtained license agreements for the color graphics with IBM and Hitachi. This obviously was a partial victory, even if many computer companies still used the color graphics technology without having any licenses. By 1995, however, Lans was also on a good way with the development of his position indicating system, and the system had also become known in professional circles around the world. In that situation Lans was approached by lawyers proposing legal measures in order to get license agreements with other companies than IBM and Hitachi. One of these lawyers, Peter Utterstrom (in Swedish his surname is spelled Utterström), was the managing partner of the Swedish law firm Delphi & Co in Stockholm. Another, the Swedish-American Talbot Lindstrom (in Swedish his surname is spelled Lindström), was also with Delphi.

Initially Hakan Lans was reluctant, mainly because the Hitachi lawsuit had become so much longer, and so much more demanding, than he had imagined at the beginning, but also since he was fully occupied with the position indicating system. Gradually, however, he changed his mind. The reason, basically, was that the lawyers suggested a procedure which, according to them, and on the whole, would leave Lans free of any duties. Since the lawsuits primarily would take place in the US, Talbot Lindstrom brought about a contact with the American law firm Adduci, Mastriani & Schaumberg (AM&S). Representatives from this firm thereafter took part in the negotiations, and on July 23, 1996, a contract between Lans and the Swedish and the American lawyers was signed.⁶

Two features of the contract are of particular significance in this context. Firstly, the contract stipulated a contingency fee, which meant that the lawyers would get a specified share of the license incomes, which they, by the legal actions, could bring about. Or, in the words of the contract: "Of the gross license fees paid under a Qualifying License Agreement a fee of thirty-three (33) percent of same will be immediately paid to the Firms [AM&S and Delphi], which fee shall be allocated among and between them in such manner as they shall have agreed among and between themselves." In return Lans should not pay any part of the costs - rather, and entirely, they should be carried by the lawyers. Or, again citing the contract: "The Advisors [including AM&S and Delphi] shall bear all expenses incurred by them in the project."

Secondly, the contract stipulated that the strategies for the legal actions should be formed by the lawyers. In this part, the contract starts by saying generally that "[t]he strategy for obtaining the licenses will be determined by AM&S, in consultation with Delphi, with the final terms of such licenses to be subject to your [Lans's] reasonable approval." After that, in the contract, two phases of the work ahead are defined. In the first phase infringers would be approached and requested to enter into license agreements on an amicable basis. In the second phase, to the extent proved necessary, more aggressive means, for instance suing, would be used. As for Lans's participation in the first phase the contract said that "[a]lthough it is understood that your personal involvement will be limited to a minimum, this first phase will require some discussions with you regarding questions of a technical nature, the prior art and present technology." And his participation in the second phase should, according to the contract, "be limited to testimony, depositions and technical guidance. The decision as to whether or not to pursue such litigation will be subject to the sole and exclusive discretion of AM&S."

Taken together all of this meant that the lawyers would form the strategy, that they would bear all costs, that they would get 33 per cent of resulting license incomes, and that Hakan Lans would get the remaining 67 per cent. Thus, as it seemed, the contract satisfied Lans's ambition not to become more than necessarily involved. But the formulations which gave the strategy forming task to the lawyers were, eventually, and as we shall see, to show another side as well. Lans, in fact, was to become involved full time for several years - and, today, he is still and continuously so. He was also, as I have already mentioned, to be sentenced to paying the attorney fees for both sides. And furthermore, at least hitherto, his proper license incomes were to be withheld from him. Parts of them are still, today, locked in AM&S's client account.

But back to 1996. After the signing of the contract the first phase of the work began during the second half of 1996. Notice of infringement letters were sent to a great number of computer companies in order to make them sign license agreements. The reactions of the companies to these approaches varied, but why that was so I don't know. Perhaps, from the beginning, the companies were approached in somewhat different ways, or perhaps they just reacted differently to the same approach. The question is not without importance and I will touch it again in the section "Gateway's role" below. Anyway, the companies may be separated into three groups, depending on their reaction to the approach.

In the first group there were a number of companies which signed licenses immediately. These were Apple Computer, Inc., Canon, Inc., Epson America, Inc., Fujitsu Ltd., Matsushita Electric Industrial Co., Motorola, Inc., Power Computing Corporation, Seiko Epson Corporation, Sharp Corporation, Siemens AG, Sony Corporation, Texas Instruments, Inc., Toshiba Corporation and Wang Laboratories, Inc. This was an obvious success. And it all went rapidly. Altogether these agreements yielded about 20 million dollars. In March 1997 the first license fees arrived, and in January 1998 the last ones. The money was collected in AM&S's client account and thereafter distributed, according to the contract, to those concerned.

In the second group there were a number of companies which declined to sign licenses. These were Gateway 2000, Dell, Hewlett Packard, Packard Bell NEC, Acer America, Compaq, AST Research, Digital Equipment and Olsy North. In October 1997

these companies were sued for patent infringement. This was the procedure which, eventually, should develop into a catastrophe for Lans. It will be dealt with in the next section.

It is noteworthy that at least one company in this group, Compaq, was to become a dissident. In 2000 Hakan Lans himself reached a settlement with Compaq, in spite of AM&S's systematic efforts to obstruct Lans's own contacts with the companies sued. The license fees resulting from this settlement are however still locked in AM&S's client account, out of reach for Lans. Also Dell wanted to deal directly with Lans, but this was stopped by AM&S.

In the third group there were only two companies, Micron Electronics and its supplier of video cards Diamond Multimedia Systems. In order to bring clarity to the patent issue these companies choose to file a declaratory judgment action against Hakan Lans in the District Court for the District of Idaho.⁷ This action finally resulted in a settlement between Lans, on the one side, and Micron and Diamond, on the other. Lans's lawyers designed the agreement together with Micron and Diamond, and they also advised Lans to sign it, which he did in September 1998. This, thus, occurred almost two years after the start of the proceedings in Idaho, but before the first judgment in the lawsuit against the companies in the second group.

The agreement was utterly advantageous for Micron and Diamond, in particular since it included not only these two companies, but also all their customers. Among them were several big computer companies buying video cards from Micron and Diamond. Because of this generosity towards Micron and Diamond Lans later on lost a case against Dell in a German court. The German court ruled "that the Diamond-Micron settlement agreement protected Dell Computer GmbH sales in Germany because Dell purchased video graphic components from Diamond ...".⁸ This happened in September 2001. In the same month, we remember, the judgment against Lans in the American color graphics lawsuit was issued. Anyway, Lans lost in Germany, and in a similar way, because of the generous agreement with Micron and Diamond, he was to lose an analogous case in Italy as well. Thus, and taking all together, it seems as if Lans's lawyers, in their dealings with Micron and Diamond, badly served the interests of their client, or perhaps not served them at all. For this they have been sued later on (see the Epilogue).

The main lawsuit

In the US patent cases are always handled by the federal part of the court system, in contrast to the state part, and the same holds for cases involving foreign citizens. Thus, the lawsuit against the computer companies was filed at the District Court for the District of Columbia - one of 94 courts of that kind in the US.

This happened on October 24, 1997, and the companies sued were those in the second group above. The lawsuit, according to AM&S's decision, was filed in the name of Hakan Lans. Lans himself, however, wished to sue in the name of Uniboard. One of his reasons was that the lawsuit against Hitachi had been so wearying for his family, and he wished to avoid getting his family involved again. Eventually, the fact that Lans, rather than Uniboard, sued, should prove to be crucial.

For almost two years, until May 1999, not much seemed to happen in the proceedings, but then, suddenly, the events started to follow each other in rapid succession. In May 1999 one of the companies sued, Gateway, got knowledge about the details of the license agreement with IBM, which has been mentioned above. The agreement, as we remember, was not signed by the physical person Hakan Lans, but by the juridical person Uniboard, of which Hakan Lans was the sole owner. In order to make this possible Lans had, just before the signing of the agreement with IBM, by a separate document, transferred the patent rights to Uniboard. This document became known as "the Assignment Declaration"⁹. It thus seemed that the lawsuit had been filed by the wrong person. It had been filed by Hakan Lans, but it should, one might argue, rather have been filed by Uniboard. On August 4, 1999, Gateway therefore filed a motion that the plaintiff's complaint, coming from the wrong person, should be rejected.¹⁰

As a result of Gateway's motion, the problem of the proper owner of the patent became the main issue in the proceedings. And the court accepted the computer companies' arguments. On November 23, 1999, the court took its decision.¹¹ The patent infringement lawsuit was dismissed since it had been filed by Lans rather than by Uniboard, and, thus, it had not been filed in the proper way by the patentee.¹² The court also rejected a request to substitute, as plaintiff, Uniboard for Lans.¹³ "The court", it argued, "cannot hold that Lans's failure to join or sue in the name of Uniboard was an honest and understandable mistake", and therefore it denied the substitution.¹⁴

The plaintiff reacted to this judgment in two ways. Firstly, six days after the judgment, on November 29, 1999, Uniboard, on its own, filed a new lawsuit against the computer companies.¹⁵ But even this claim was rejected, essentially since the color graphics patent had expired January 9, 1999, that is before the filing of the lawsuit.^{16 17} This decision of the court was taken almost a year after the opening of the case, or on August 31, 2000.

Secondly, after the initial setbacks in the district court the plaintiff, on December 22, 1999, appealed to "the United States Court of Appeals for the Federal Circuit" - one of twelve courts of this kind in the US.¹⁸ Roughly a year and a half later, or on July 18, 2001, the Federal Circuit issued its opinion.¹⁹ Essentially it followed the district court, and thus the plaintiff lost again.²⁰ Lans's lawsuit was rejected since Lans was not real patentee, and Uniboard's since it was filed after the expiration of the patent.

In the Federal Circuit the case was handled before the judges Randall R. Rader (Circuit judge), S. Jay Plager (Circuit judge) and Alvin A. Schall (Circuit judge). The final document was signed by Randall R. Rader.

I have already mentioned that the attorney fees rules are different in the European and the American legal systems. In Europe the main rule is that the loser pays all the fees, whereas in the US the main rule is that each party, irrespective of the outcome, pays its own fees. Thus, according to this rule, the plaintiff is responsible for his costs, and the defendant for his. This rule is, however, not absolute. If the conditions, in specified respects, are exceptional, the court may decide to depart from the main rule. The conditions for such a departure are

expounded in the final document from the District Court for the District of Columbia.²¹

As soon as the proceedings in the Federal Circuit were over, the issue of the attorney fees was addressed in the district court - this happened on July 18, 2001. In this context Gateway played a key role: "Gateway argued the fee motions on behalf of the defendants in both the Lans cases and Uniboard."²² Somewhat more than a month thereafter, on September 6, the court pronounced its judgment.

This judgment, in all essentials, satisfied the claims of the defendants. The court declared that the conditions, in fact, had been exceptional, and that therefore, the defendants didn't have to pay their own attorney fees. Rather, almost all of the costs were laid on the plaintiffs. Even so, however, the court did not accept the defendants' argument for the distribution of the fees on the plaintiff side. The defendants argued that AM&S should be held responsible for part of the fees, whereas the court decided that the whole burden of the costs should be laid on Lans and Uniboard. So far, no exact sum has been specified. It is however clear that the amount, by far, exceeded Lans's pecuniary resources. The magnitude of 100 million Swedish crowns has been mentioned.

So, this is how the proceedings developed from the suing in October 1997 to the disastrous judgment on September 6, 2001. The litigation, almost four years long, never touched the patent infringement issue as such. Rather, the process focused on the topic of the ownership to the patent, and on the consequences of the alleged fact that the plaintiff was not identical with the patentee. For the understanding of these proceedings it is essential to know that Hakan Lans was never present in the court. The one who was present was Louis S. Mastriani.

The judge in the district court was John Garret Penn - on September 6, 2001, as well as at the earlier decisions in the Lans case.

Elementary rules of conduct for attorneys

The attorney profession is guided by ethical rules of conduct. In Sweden, for instance, the Swedish Bar Association has published such rules, and there is also a "Code of Conduct for Lawyers in the European Union".²³ Similarly, in the US, the American Bar Association has issued "Model Rules of Professional Conduct".²⁴ In this context, two groups of rules, in particular, are relevant.

The first group of rules relates to the client-lawyer relationship. About this, the American rules stipulate, among other things, that "[a] lawyer shall act with reasonable diligence and promptness in representing a client." Then, commenting, on this, the American Bar Association continues:

"A lawyer should pursue a matter on behalf of a client despite opposition, obstruction or personal inconvenience to the lawyer, and take whatever lawful and ethical measures are required to vindicate a client's cause or endeavor. A lawyer must also act with commitment and dedication to the interests of the client and with zeal in advocacy upon the client's behalf."

Or, in other words, the lawyer should be loyal with his client. The rules also prescribe that a lawyer shall "reasonably consult with the client about the means by which the client's objectives are to be accomplished", and "keep the client reasonably informed about the status of the matter".

In this story there are many violations of these rules - basically, of course, the judicial crime hypothesis in its entirety, is a hypothesis about such a violation. There are however also smaller, and perhaps more obvious, examples. On a certain occasion, for instance, Louis Mastriani at AM&S and Peter Utterstrom at Delphi had effectuated a business transaction which was compatible neither with their mandate, nor with the intentions of their client. They had, as an element in their efforts to finance the impending litigation, borrowed money on their contract with Lans. In January 1997, in a letter to Mastriani, Utterstrom commented on the incident like this: "With the risk of stating the obvious but Lans is not fully informed of our discussions regarding the financing."²⁵

Another group of rules deal with the obligation of the attorney, prior to the filing of a patent lawsuit, to investigate, and make clear, the patent ownership. These rules are about the same in the US and in Sweden, but here, of course, we are primarily interested in the US rules. Applied to the Lans case, one of these rules has been formulated like this:

"As law firms and as lawyers representing a patent holder against infringers, the AMS-defendants and the Delphi-defendants had obligations to meet the standard of care for such attorneys. Such care included giving notice in the name of the patent holder, preventing any confusion in patent ownership by clarification of ownership before notice was given, and filing any litigation in the name of the patent holder."²⁶

In a declaration to the district court in December 2001, that is a few months after the attorney fee judgment, the distinguished lawyer and expert on intellectual property rights, Bruce A. Lehman, described the rules as follows: "The standard of care for an attorney filing a patent lawsuit requires the attorney independently to investigate and determine that the suit is being brought in the name of the patent owner".²⁷

Lehman furthermore contended that the lawyer, in addition to investigating the actual circumstances, is also obliged, if needed, to actively change the legal situation so that clarity is created. Thus he writes:

"The standard of care for an attorney professing familiarity with preparing, filing and prosecuting U.S. patent applications, when faced with confusion or ambiguity regarding ownership of a patent, would be to clarify the ownership issue by creating and filing appropriate documentation with the Patent and Trademark Office. In this case, because Mr. Lans owned 100% of Uniboard, it would have been a straightforward procedure to create and file an assignment of the Lans Patent rights either from Mr. Lans to Uniboard, or from Uniboard to Mr. Lans. ... Given Mr. Mastriani's knowledge of the confusion regarding ownership of the Lans patent, he and

his firm acted beneath the standard of care in failing to prepare and file the necessary clarifying documents."

Thus, in the US as well as in Europe, an attorney, who has the slightest suspicion about confusion, is obliged to create ownership clarity before the filing of a patent lawsuit. And in that undertaking an investigation is not enough. If needed, the attorney should also actively enhance clarity, for instance by additional contracts or assignments.

The first hypothesis: Justice was done

Justice in the patent issue?

The first of our hypothesis about the judgment is that it was correct and in accordance with prevailing law. For the discussion of that hypothesis it may be expedient to distinguish between two aspects of the judgment: the patent infringement aspect and the attorney fee aspect. In this section I will discuss the first aspect, and in the next section the other one. Possibly, since the court never dealt with patent infringement issue, the former discussion may seem unnecessary. For the sake of completeness it should however be included. Thus, was the outcome of the patent infringement suing basically correct? In principle the outcome could be correct in two ways.

The one possibility is that Lans or Uniboard, after a discovery process, proved to be unjust holders of the patent - or, in other words, that the patent ought to have been considered invalid. This possibility is obviously absurd. Had there been any truth in it Lans or Uniboard would never have obtained the license agreements with IBM and Hitachi, or the following ones with Apple, Canon, Epson America, Fujitsu, Matsushita, Motorola, Power Computing Corporation, Seiko Epson, Sharp, Siemens, Sony, Texas Instruments, Toshiba and Wang. In the same way the somewhat later agreement with Compaq would also have been impossible. Furthermore, as I have already said, the infringement issue was never dealt with in the court.

The substance of the matter thus seems perfectly clear, but still there are some formalities which may be discussed. Thus it may be asked who really owned the patent when the lawsuit against the computer companies was filed, Hakan Lans or Uniboard. Certainly there was "the Assignment Contract", and certainly IBM had signed its license with Uniboard. But still it's possible that the assignment contract, for one reason or another, could be considered invalid; and it's equally possible that IBM, in good faith, had made its agreement with the wrong counterpart. The color graphics patent has, indeed, all the time been registered on Hakan Lans, not on Uniboard, and that is still the case. All of this, however, is just presented as information for the reader. It should not have any relevance for the judgment, essentially since, as we have seen, the attorneys are obliged to clear things up before suing.

But let us assume - for the sake of the argument - that Uniboard really owned the patent, and that, therefore, the lawsuit which was filed by Hakan Lans was filed by the wrong person. Let us furthermore assume - falsely as I will subsequently show - that the

attorneys at the time of the suing didn't know about Uniboard's existence. Would this, we may ask, make the judgment correct? Or, in other words, would the judgment be perfectly in order if Uniboard really owned the patent, and if the attorneys, at the time of the suing, were totally unaware of the existence of Uniboard?

This, also, is difficult to contend. Surely there are cases in which a patent infringement suing has been rejected, since it wasn't filed by the patentee. Indeed, the Federal Circuit, while handling the Lans case, discusses these matters. The point of departure is not written law, but a prejudicing judgment from the Supreme Court. In its comment to this case, *Dunlap v. Schofield* (1894)²⁸, the Supreme Court wrote that "[it was] thus established that notice must be an affirmative act on the part of the patentee which informs the defendant of infringement".²⁹ Thus, according to this particular opinion, the action has to come from the patentee.

In other cases, however, this is not necessarily so. In *Dunlap v. Schofield* the plaintiff, the Dunlap company, had a license agreement with the innovator and patentee, and it had also invested considerably in the marketing of the product. Now, Dunlap claimed that Schofield, the defendant and another company in the same business as Dunlap, used the patented innovation in its products without permission. That was the suing which was rejected, since it wasn't filed by the patentee himself. Rather, the suing was filed by a licensee.

In our case, though, the relation between the suing plaintiff and the patentee is completely different. Now and for the sake of the argument, we have assumed that Uniboard is the real patentee. Furthermore, as we know, Hakan Lans sues. Thus there is a similarity with *Dunlap v. Schofield* in the sense that it is not the patentee who sues, but even so the differences are considerable. Indeed, the Federal Circuit was well aware of these differences and wrote: "Admittedly, this court has not previously encountered a situation, such as this case, where a party associated with the patentee notified alleged infringers."³⁰

This stimulates the court to a discussion about why the lawsuit has to be filed by precisely the patentee, and nobody else. The reason is that it should be easy for the defendant to contact the patentee, in order to settle the matter. From the beginning, the defendant should be given full information about the identity of the patentee.

"Thus, without knowledge of the patentee's identity, an alleged infringer may lose the benefit of this primary purpose of the notice requirement. An alleged infringer may lose the opportunity to consult with the patentee about design changes to avoid infringement. Similarly, without knowledge of the patentee, an alleged infringer may lose the chance to negotiate a valid license. In sum, knowledge of the patentee's identity facilitates avoidance of infringement with design changes, negotiations for licenses, and even early resolution of rights in a declaratory judgment proceeding."³¹

Thus, and so far, one might think that these conditions are fulfilled if the one suing and the real patentee, even if they are different, are close enough to each other, since in that case the defendant could easily reach the patentee. In our case with Hakan Lans and Uniboard, the relationship is extremely close. It is not only

the case that the physical person Hakan Lans owns all the shares in Uniboard, but the two persons also have the same postal address, telephone number, and so forth. Thus, in practice, it is impossible to communicate with any one of them without also communicating with the other. There just couldn't be any communication problems.

But finally the Federal Circuit, in spite of its general argument about the reasons for the main rule that the patentee should sue, rejects the idea of any exceptions from that rule. The borderline cases, opines the court, would be too difficult to handle.

"[A] looser notification rule would present notable enforcement problems. Courts would have to decide the degree of association sufficient to satisfy the rule. Must the notifying party control the patentee, or simply have an interest in the patentee? Indeed, how much control or interest would suffice? Agency principles would not likely ease this problem because the notifying party would not likely even purport to act on behalf of the patentee. Accordingly, a looser rule would both frustrate the purpose of notification and present difficult, if not unworkable, enforcement problems."³²

This reasoning about problems with borderline cases is, however, hardly convincing, and the court doesn't present any independent support for it, for instance written law or earlier cases. The reasoning rests entirely with the court itself. Not surprisingly, it has also been questioned. The American law firm "Jaekle Fleischmann Muegel, LLP" has, for instance, posted the following comment on the "the Lans case" on the Internet:

"The result seems harsh. First, the statute does not require the patentee, *per se*, to give notice. It merely denies him recovery if notice is not given. The court gave three reasons for requiring the proper party: (1) avoidance of infringement, (2) negotiating a license and (3) bringing a declaratory injunction. It is not clear how knowledge of the proper identity of a patentee would help avoid infringement. Infringement depends on a comparison of the accused product with the claims, not the identity of the patentee. As for the other two reasons, it is doubtful a court would have let Lans avoid a licence or a declaratory judgement action by later claiming that Uniboard was the real patent owner. A court in equity could hold Uniboard responsible for the acts of its manager and sole shareholder and stop Uniboard from denying the actions of Lans."³³

The conclusion thus is that the judgment, with respect to the patent infringement aspect, could not possibly be correct. The indisputable fact that Lans is the inventor behind the patent, and the very close relation between Hakan Lans and Uniboard, make that clear. The only possible, fragile support for the justice hypothesis is a new argument, without any precedences, about borderline problems, which is put forward by the Federal Circuit. This argument, however, presupposes that Uniboard unmistakably owned the patent, and that the attorneys, at the time of

suing, were kept completely unaware of this. This, as we will see, was not the case, and therefore all possible support for the justice hypothesis, with respect to the patent infringement aspect, disappears.

Justice in the attorney fee issue?

The unfortunate outcome of the patent infringement issue was however only part of the judgment, and only an implicit one. The explicit part of the judgment - disastrous for Lans - dealt with the attorney fees. Alleging exceptional circumstances, and departing from the main rule in US civil cases, the court decided that Lans should pay all the fees, his own as well as those of the defendants. Was this correct? Which were the alleged exceptional circumstances?

Let me start by presenting the court's position. Justifying the judgment judge Penn wrote as follows:³⁴

"The court is unable to reach the conclusion that failure to sue in the name of Uniboard was an honest and understandable mistake. Lans argues simultaneously that he both forgot that he had made the assignment and that he thought the assignment was invalid - the Court finds this dual position untenable. Lans was in control of all the information regarding the assignment since it was executed. As previously noted, Lans was able to inform his attorneys of the license to IBM, but then appears to have conveniently forgotten the assignment to Uniboard, which is a vital aspect of that transaction. Prior to the declaration in support of his motion to amend, Lans never expressed any doubts as to the assignment's validity. In any event, it was entirely within Lans's ability to verify the validity of the assignment, establish ownership of the patent, and sue in the name of the proper plaintiff. When Lans's attorneys inquired as to whether he had made any assignments of the patent, Lans should have told them about the assignment to IBM and his belief that the assignment was invalid. If he had done that, counsel might have proceeded differently, and avoided this present situation. The court cannot escape the conclusion that Lans chose to conceal all information about the assignment, possibly even from his attorneys, until confronted with irrefutable evidence that the assignment had occurred. Therefore, the Court cannot hold that Lans's failure to join or sue in the name of Uniboard was an honest and understandable mistake.

These circumstances were considered exceptional in a sense spelled out in *35 United States Code § 285*³⁵, and the court thus decided, on September 6, 2001, that the total attorney fees should be paid by Lans and Uniboard (excluding AM&S).

In the lines cited, as well as in many other places, the court thus describes Lans as utterly tricky and manipulating, and the trickiness is exactly about the dualism between Lans and Uniboard. So, here the argument is not about any

borderline problem of the kind mentioned above, but about something completely different. Here it is argued that Lans is lying and trying to bewilder the court. The failure to sue in the name of Lans, rather than in the name of Uniboard, was not "an honest and understandable mistake". This is what was considered exceptional, and this, consequently, was the rationale for the court's attorney fee decision.

When evaluating the assertions about Lans's tricky and devious behavior, two things should be kept in mind.

The first one is that Hakan Lans, as I have already mentioned, was never present in the court. In spite of this, in the court documents, the references to Lans's utterances, and other doings and dealings of his, are omnipresent. One very definitely gets the impression that he was there. But this was not the case. Everywhere in the documents, where it is said that Lans is claiming or doing something, it is, in fact, Mastriani who acts.

It would be easy to give many examples of deceptive formulations like this, but I will confine myself to three. In the justification for the judgment of September 6, 2001, it is written, among other things:³⁶ "In Lans I [the first part of the process in the district court, before the continuance in the Federal Circuit] the Court considered the litany of excuses Lans offered to explain his failure to sue in the name of the proper party". This wording about a "litany", is it compatible with any other impression than that it's Lans himself who talks? And how about this:³⁷ "Second, as the Court has already concluded, Lans has only himself to blame for the situation in which he finds himself. If he had been more thorough with his recordkeeping and more forthcoming with his attorneys, then perhaps he would be pursuing his infringement claim today, rather than defending against the present attorneys fees motions." Does this not give the impression that judge Penn, who wrote the cited lines, have seen and heard Lans in the court, and thereby formed an opinion about him? This impression, indeed, is strongly supported by the explicit distinction being done by Penn between Lans himself and his attorneys.

The third example is from the long passage cited just above, namely this sentence: "The court cannot escape the conclusion that Lans chose to conceal all information about the assignment, possibly even from his attorneys, until confronted with irrefutable evidence that the assignment had occurred." Here, again, the revealing distinction between Lans and his attorneys appears. *Possibly* Lans concealed information from his attorneys, but *certainly* he deceived the court. Obviously this alleged doubletalk implies that Lans was present in the court - otherwise it wouldn't be possible.

Incidentally the sentence with the word "possibly" also shows that judge Penn wasn't sure that Lans had deceived his attorneys, and still he judged as he did. Recalling all the duties of attorneys, as described above, this is indeed remarkable. Didn't the court find it proper to examine Mastriani?

But back to the main argument. Hakan Lans was never in the court. Judge Penn never saw or heard him. Naturally this didn't satisfy Lans, and therefore, repeatedly, he asked to be allowed to come to the court for testifying. In July 2001, in a letter to Hakan Lans, Louis Mastriani wrote: "I told the judge that had he held an evidentiary hearing he could have looked you in the eye and asked you questions about ownership. He asked whether you had offered to testify and I said that you

had done so several times, and had even asked to testify before the appeals court." The content of this letter could be true or false. If it's true, then the judge knew that Lans, without succeeding, had wished to appear before the court, and still pronounced his judgment. If it's false, the unveiling light, rather, is shed on the author of the letter.

The second important thing to keep in mind when evaluating the contentions about Lans's deviousness, is that Lans's attorney, Mastriani, all the time knew about the dualism between Lans and Uniboard, and about the agreement with IBM. Also, as we remember, it was Mastriani who decided to sue in the name of Lans, rather than in the name of Uniboard, as Hakan Lans himself wished.

Several documents show that Mastriani was familiar with the circumstances from the very beginning.

On February 19, 1997, that is about half a year before the filing of the lawsuit against the American companies, Lans wrote to Mastriani:

"As you know the license has been signed with a company (UNIBOARD AB) and not with me as an individual (the patent has been transferred to the company for many years ago and the agreement with IBM was made with UNIBOARD AB). The company has the same address as my private address. In order to make this clear I have signed a paper for changing registration at the US Patent office. Dr. Bertil Grennberg will send you this document."³⁸

Obviously Hakan Lans is here very plain, and he also underlines his message with the words "in order to make this clear". We also know that Mastriani really received the letter, since it carries AM&S's stamp. The letter also shows, by the way, that Lans, in order to create clarity, wished to re-register the patent in the US.

In the context of the Micron/Diamond procedure, in the District Court for the District of Idaho, on April 18, 1997, Mastriani declared: "I have reviewed and am familiar with the patent license agreement negotiated in Europe in 1989 between a company wholly owned by Hakan Lans located in Saltsjobaden, Sweden and International Business Machines Corporation (IBM) located in Purchase, New York, under US. Patent No. 4,303,986." This declaration, as we see, was made a few months before the filing of the lawsuit against the computer companies in the District Court of the District of Columbia.

Mastriani's familiarity with the circumstances is also evidenced by a letter from Peter Utterstrom to Hakan Lans, dated July 9, 2002.³⁹ In the letter Utterstrom describes a meeting at AM&S's office in Washington D.C. in July 1997 - that is, again, several months before the suing. Utterstrom wrote:

"The part of the discussion which I remember distinctly focused on you continuing as the owner, or whether a transfer of the title to the patent should be made to Uniboard - this was (at the time) a strategic issue and would decide whether you personally or your company Uniboard AB would be the plaintiff. ... Ultimately, AMS decided against a transfer of title - one

argument was that a transfer prior to filing a suit may be taken as a sign of weakness."

Finally it may be added that the intellectual property rights expert Bruce Lehman - in the same declaration as the one cited above - wrote as follows:⁴⁰ "In these cases, by January 1997, Mr. Mastriani and his firm had the IBM license agreement and were familiar with its provisions. Knowledge of the IBM license agreement standing alone would require an attorney to inquire as to basis for Uniboard's right to license the Lans patent to IBM." The date mentioned in Lehman's declaration, January 1997, precedes the suing of the computer companies by more than half a year.

Thus, it is overwhelmingly clear that the AM&S attorneys, well before the suing of the computer companies, were perfectly informed about the existence of Uniboard, and about the agreement between Uniboard and IBM. So, even for that reason, all talk about Lans's deviousness is absurd.

In the long run it also proved tough for Mastriani to keep the court ignorant. His position became untenable. On August 13, 1999, he declared under penalty of perjury:⁴¹

"Inasmuch as I and other counsel to Mr. Lans have been repeatedly informed by Mr. Lans that no assignment had ever taken place with respect to the Lans patent, we are investigating the circumstances surrounding the referenced Assignment."

Thus, in spite of all documents showing the opposite, Mastriani here testifies that he didn't know about Uniboard, or about the assignment of the patent to Uniboard. For this, later on, he has become sued for perjury.

In the Epilogue I will return to this suing. For now, the important conclusion is that the attorney fee part of the judgment, from any point of view, not can be considered correct or justified. All talk about Lans's tricky deviousness is absurd. Therefore the circumstances were in no way exceptional. And therefore all arguments for the judgment break down. It totally lacks support from prevailing law and praxis. It is plainly illegal.

The second hypothesis: Accident in work

But, if the judgment wasn't correct, then, perhaps, it was the result of a failure? Perhaps it was due to lack of skill among the attorneys, and thus an accident in work? This is the second hypothesis.

Lawyers, of course, as most other people, are more likely to fail with something difficult than with something easy. Therefore it seems expedient to start the discussion of the second hypothesis with an estimation of the difficulty of the task.

A patent, it is often and accurately said, has no value until it has been successfully tested in a case. Equally correct, it is often said that a patent has no value until its owner

has shown his or her capacity to defend it. Thus, according to these two contentions, the originality of the invention, to which the patent grant testifies, is not enough for giving a patent a value. As long as this is all that there is, the patented innovation is still, basically, a commodity to be used freely by anyone who so wishes.

This is exactly what Hitachi did. They used the color graphics technology without being particular about patent or license. Finally, though, they had to agree to a settlement. The patent had been tested by litigation and proved solid, and Lans had demonstrated his capacity for defending the patent. Before the litigation both issues were open. Therefore, being the first of its kind, the litigation was comparatively difficult. Still, the outcome was a success for Lans.

Using this argument, the litigation filed in 1997 against the American computer companies would, reasonably, be easier. The agreements with IBM and Hitachi had broken the ice. The patent and the ownership had been acknowledged in trial, and Lans, as he had shown, could defend the patent. Logically, therefore, the odds were good for the attorneys in the US lawsuit.

But not only the odds were good - the attorneys' incentives for winning were also, as it seemed, strong. Their contract with Lans, we remember, stipulated a contingency fee. According to AM&S itself "the license fees for the '986 Patent would be more than \$100 million in settlements with defendants in the Lans Lawsuits only".⁴² Thus, according to the contract, the attorneys would get 33% of these fees. But still, in spite of the good odds and the strong incentives, the attorneys didn't bring the case to a victory.

These reasons alone indicate that lack of skill hardly explains the outcome. But there are more indications in the same direction. Had lack of skill been important both the procedure, and the outcome, would have been of another nature than they, in fact, were. If so, patent infringement had been the main topic of the lawsuit, the patent infringement claim had been rejected, and, thereafter, each of the parties, according to the American order, had have to pay its own attorney fees. And that had been all.

But this is not what happened. The litigation never touched the infringement issue. Rather, departing from the US main rule, it was decided that Lans should pay the total attorney fees, both his own and those of the defendants - the sum total has never been specified, but the magnitude 100 million Swedish crowns has been mentioned. The rationale was the false argument that Lans had tried to deceive and manipulate the court. This is hardly the simple, commonplace scenario, which one would expect as a result of failing skill. Rather, what we are witnessing is a very strange and exceptional scenario, indicating some kind of skill - but a skill serving, not Lans, but some other principal.

Thus, we can conclude by rejecting the second accident-in-work hypothesis, and, in so doing, we have also reached the final judicial crime hypothesis. Was there anyone prepared to pay the attorneys more than the contingency fee contract with Lans would give them? Was the judgment, in fact, a planned judicial crime?

The third hypothesis: A planned judicial crime

An important difference - the position indicating system was well known when the US lawsuit was filed

We know by now that the US lawsuit which was filed 1997 ended disastrously for Lans in 2001. We have also noticed that this was strange since the US litigation, reasonably, should be easier than its predecessor against Hitachi in 1895-1995. Thus the question is whether there was something else, for instance something in the very preconditions, which made the two cases different. The answer is yes - there was such a difference. At the time of suing in Germany Lans's position indicating system was undeveloped and unknown - when the American litigation was launched this was not so.

Let me start by recapitulating a few important dates. In 1991 Lans filed his first position indicating patent application. In 1993 he sent his application for the same matter to the U.S. Patent and Trade Mark Office. In 1995 Peter Utterstrom, together with Talbot Lindstrom, took their first contacts with Lans in order to make him interested in a US color graphics lawsuit. In 1996 the US position indicating patent was issued. In 1997 the American computer companies were sued for color graphics patent infringement. Thus we see that the scenarios of the two patents clearly overlap, at least as far as time is concerned.

This makes it important to state, in same detail, the status of the position indicating system at the time of the initial discussions between AM&S, Delphi and Lans. To what extent was the technique developed at that time? To what extent was it known among professional people? In the following I will include events and pronouncements up to the turn of the year 1996/1997 - nothing later.

I will start by recounting a few early demonstrations of the system under real conditions, that is in contrast to computer simulations. On October 14, 1988, the first public demonstration flight took place at SAAB's airport in Linköping, Sweden. Representatives from the media were invited. In particular, the usefulness of the system for landing was demonstrated.^{43 44} Thereafter, in 1991 and 1992, on various occasions, the system was demonstrated at Gothenburg's Landvetter Airport, Sweden.⁴⁵ Altogether quite a number of foreign guests were present. In the spring 1991, for instance, representatives from the American aviation technology companies Hughes Aircraft and ARINC visited Landvetter. In 1992 and 1993, hardware prototypes of the system were tested on Chicago's great O'Hare Airport. What was tested, in particular, was surveillance of the traffic on the ground, including aircraft as well as various kinds of ground vehicles.⁴⁶

In the beginning of 1996, furthermore, prototypes were installed in base stations in Denmark, Germany and Sweden, as well as in a number of aircraft from these countries. The Aviation magazine ATC News, in an article on April 29, 1996, described this development step as follows:⁴⁷ "The Self-organising Time Division Multiples Access (STDMA) data link, which is the corner stone of the NEAN (The North European ADS-Broadcast Network) trials, is already being used in commercial service on a trials basis as part of the North ADS-B Trials."

The same article also described the installations in a more detailed manner:

"The first of five base station installations was made in Germany and in mid April and all five were expected to be completed and operating autonomously in test mode by the end of the month. / Connection between the five stations - Berlin, Bonn, Braunschweig, Bremen, and Frankfurt - will take longer, and the final phase of the network set-up will involve connecting the German network to the Danish network. Connection of the Danish and Swedish networks has already been completed. Bo Redeborn, Manager Air Traffic Management with the Swedish Civil Aviation Administration, told ATC NEWS that the whole system is expected to be up and running by September this year. 'With Germany coming on line, the final set-up and phased implementation of the network is pretty much established,' said Redeborn."

On December 14, 1996, the magazine "Airnavigation International" told its readers that:

"Scandinavian flag-carrier SAS has made a little bit of history with the first flight of a certifiable automatic dependent surveillance - broadcast (ADS-B) display in a commercial airliner. ... The Fokker F-28 involved is also one of the aircraft equipped with the Swedish-developed GNSS Transponder as part of the North European ADS-B Network (NEAN) trial. That is based on use of the self-organising time-division-multiple-access (STDMA) datalink invented by Hakan Lans, who was also on the flight."⁴⁸

But the system was not only demonstrated in various ways, and in various places, prior to the turn of the year 1996/1997. There were also a number of pronouncements about the system. One who made his view known was William Fromme, director of ICAO's (International Civil Aviation Organization) important "Air Navigation Bureau". On ICAO's website the unit is described like this: "The Air Navigation Bureau develops technical studies for the Air Navigation Commission as well as recommendations for Standards and Recommended Practices (SARPs) relating to the safety, regularity and efficiency of international air navigation for the Council."

Just ahead of his retirement from the Air Navigation Bureau Fromme was interviewed in ATC News, June 12, 1995.⁴⁹ He deplored the development of navigation and security systems, and contended that different kinds of techniques were knit together in such a way that the result, more and more, became a patchwork. This, he said, was unfortunate, "especially when there is already a system available which inherently incorporates virtually all the elements of the CNS/ATM system, which are currently being developed on a piecemeal individual basis."

The system Fromme was talking about was exactly "The Swedish GPS transponder/[S]TDMA (self-organising time division multiplex) ...system", or Hakan Lans's system. The article also informs that Fromme "acknowledges that the

Swedish system 'is technically an extremely interesting proposal' but suggests it may be ahead of its time."

When describing the current technological development, that is the development at about the time of his retirement, Fromme finally expresses himself like this:

"It is a little bit back to front to patch systems like TCAS into the system as they emerge, but the reality is that we already have TCAS specifications; we don't yet have any for the GPS transponder. However, when we move on to ACAS III or TCAS IV, which use the GPS for horizontal separation monitoring, then it is going to be difficult to answer the question why we are doing it this way when we already have a GPS transponder that does ACAS plus a great deal more. I'm glad I'm not going to have to answer that question myself."

On July, 24, 1995, ATC News published an article in which Ludwig Kilchert, "Senior Project Manager, Aircraft Evaluation and Concepts" at Lufthansa, was interviewed about the company's technological plans for the future.⁵⁰ According to the article, when it appeared, "Lufthansa is planning within the next six month to develop an ATM demonstrator which will be based largely on the Swedish-developed Global Positioning and Communications (GP&C) system, with the aim of inaugurating airborne trials soon after."

The article also informed that:

"The Lufthansa effort is part of a growing lobby among elements of the airline community to ensure that the Swedish system - the heart of which is a complex and sophisticated global navigation satellite system (GNSS) transponder - is fully evaluated in the intricate process towards CNS/ATM system identification and not overlooked in the rush to find alternative solutions."

In the same article the Swedish system, that is Hakan Lans's system, was presented like this:

"Sweden has recently submitted to the International Civil Aviation Organisation (ICAO) draft standards and recommended practices (SARPS) for the self-organising time division multiple access (STDMA) VHF Data Link (VDL) element of its system. But the system as a whole incorporates a full range of CNS/ATM functions which could eventually replace virtually all land-based navigation aids using a single 'box' in the flight deck instead of the multiple box applications which are currently a feature of CNS/ATM implementation."

In his assessment of the situation Kilchert goes as far as to claim that "CNS/ATM will not work without it", that is without the Swedish system.

In the same article in ATC News, that is on July 24, 1995, there is also a story from a meeting between representatives from airlines and aviation administrations, which took place in April 1995. It reads:

"In April, airline representative from Alitalia, Lufthansa, Northwest, SAS, and United, as well as IATA and the Danish Civil Aviation Administration were invited to Stockholm by the Swedish CAA to review from an airline point of view the proposed draft SARPS for the Swedish STDMA VDL. They were also given a live GP&C demonstration. / 'The impression I got from the proceedings and the dialogue that took place was one of broad support for the Swedish STDMA proposal, and a positive view that it must be fully considered as an option for the future digital VHF system', said Somerset [IATA's Regional Technical Representative - Europe] who was among the representatives attending. / United believes one of the key attractions of the system is that it is already operational and has been tried and tested over a number of years. / 'No other TDMA system I have seen is as far along or as technically advanced as the Swedish system, and it seems to do the key things we need it to do,' said Ed Thomas, Flight Systems Program Manager with United Flight Operations."

It should also be mentioned that Hakan Lans, prior to the turn of the year 1996/1997, received several significant international awards. Among them were the following two:⁵¹

In 1993 Hakan Lans received the *International Seatrade Award* for the most important innovation for maritime safety. The award was presented by the Duke of York at a banquet in Guildhall, London.

In 1994 Hakan Lans was selected for the *American Laurels Award* 1993 in Electronics "for inventing and testing the Global Positioning and Communications System, which transmits GPS positions by an unusual and high capacity data link using time-division multiple-access transmission that has many possible uses including collision avoidance and airport surface tracking".

In this section it has become clear that there are competitors to Lans's system. It has also become clear that at least some experts consider Lans's system better, or even superior to, other systems. The presentation of this information, though, has not been the section's main purpose. The purpose, rather, has been to show, beyond all doubt, that Lans's system was well developed, and well known in professional circles, at the time when Delphi, Talbot Lindstrom and AM&S approached Lans proposing the American color graphics lawsuit.

Exactly this is an important difference in the preconditions for the earlier Hitachi lawsuit in Germany - 1985-95 - and the American lawsuit following after that.

Competing systems

At the time when Lans's position indicating system began to be known, there were, of course, competing navigation and traffic control systems. To a large extent these represented developments of the conventional radar technology.

This technology - nowadays sometimes called primary radar - takes advantage of the fact that objects reflect electromagnetic radiation. Thus, if an electromagnetic signal is transmitted in a certain direction, and an echo, which may be registered in a proper receiver, returns, then one knows that, in the pertinent direction, there is an object, for instance an aircraft or a ship. Furthermore, since the speed of the signal is known - the same as that of light - the distance to the object may be deduced by measuring the time from the transmitting of the signal to the return of the echo.

This means that in a primary radar system the objects which may be discovered are completely passive. Not in any way do they contribute to the efforts of the searcher. They just reflect the transmitted signals. This, however, is not necessarily so. Devices, which are activated by the signals, may be installed in the objects. In that way it is possible to make the object, when hit by a radar signal, send back much more information than just the echo. This information may include, for instance, the identity of the aircraft or ship. Thus, and in this way, the objects may actively participate in the communication. Radar systems, which in this sense are active, are usually called secondary radar.

A further development of the secondary radar technology, being used in aviation, is ADS-B, which stands for Automatic Dependent Surveillance Broadcast. The corresponding notation for shipping is AIS (Automatic Identification System). Within these general categories there are a number of specific, individual systems. There are, for example, short distance collision warning systems such as TCAS (Traffic Alert Collision Avoidance System) and ACAS (Airborne Collision Avoidance System). There are also systems which, when being hit, return comparative large amounts of information - "Mode S" is such a system. These systems, in turn, have given rise to systems which continuously send information, irrespective of whether they are hit by a radar signal or not - these are the so called Mode S Squitter systems. Still another system, UAT (Universal Access Transceiver), works in approximately the same way as Mode S Squitter, but more efficiently.

In reality, of course, the technologies so briefly described here, are utterly complex. A main problem is that the different signals must not disturb each other. And this problem, obviously, is most challenging in those contexts where the systems are most needed, for instance around great airports. With respect to this the various systems, and various combinations of them, differ in efficiency. Some systems are better than others.

According to many experts Lans's system STDMA, which falls within the general categories ADS-B and AIS, is superior to other systems. The reason is that the system alone, or in one strike, solves several important navigation and traffic control problems. It greatly removes the need to combine various technologies, and still the final result is better. The system works all the way "from gate to gate". It's characterized by a kind of simplicity and universality. In addition to that the costs are far below those of the alternatives.

Lans's system is labeled in various ways. In aviation, in particular, it is often called VDL Mode 4.

Actors with interests in position indicating - possible principals

As we have seen above, the preconditions for the two color graphics lawsuits differed substantially. When the first, and more difficult, lawsuit against Hitachi opened Lans's position indicating system was, at most, on the point of budding. When the second lawsuit was filed, the position indicating system was not only in the main developed, but also common knowledge among professionals. Since the system was revolutionary, it touched interests of various kinds. Some interests, one can imagine, would like to get hold of the technology, and other ones to obstruct it. For both kinds of interest the way could be paved by a judgment like the one Lans faced in the American lawsuit. So, which were the interests of these kinds?

In a report from American FAA (Federal Aviation Administration) there is a very interesting indication. The report, from January 1998, is entitled "Automatic Dependent Surveillance Broadcast (ADS-B) - Mission Need Statement-326".⁵² Thus it is about exactly the kind of systems described in the preceding section. It is concise, systematic and detailed. In the very first sentence FAA's goal is spelled out:

"The Federal Aviation Administration's strategic goal for system capacity and air traffic services is to provide improved accessibility, flexibility, and predictability for the user community, which includes air carriers, air taxis, general aviation and military users, while maintaining or improving the level of safety."

Then, in the middle of the report, one finds the following:

"The FAA has set as an objective the promotion of U.S. aviation system technologies, products, and services. International initiatives are ongoing to develop and deploy automatic dependent surveillance systems. For example, the Swedish Civil Aviation Administration (CAA) is working with an ADS-B technology known as VDL Mode 4. In light of this and other international initiatives, the U.S. runs the risk of surrendering technical leadership in a potentially lucrative and growing market. This will adversely affect the ability of U.S. avionics manufacturers and software companies to compete for international product markets."

Thus, in addition to the goals presented in the first sentence, here another goal appears, namely to support American avionics manufacturers and software companies. It is also explicitly stated that VDL Mode4, that is Lans's system, threatens American technical leadership and American companies in potentially lucrative and growing markets.

The business at issue here, to a large extent, is the one developing and manufacturing secondary radar systems of the kind described in the section "Competing systems" above. Among the companies within this category are the American Rockwell Collins, Honeywell, Lockheed Martin and Raytheon, and the French Thales. In Great Britain there are also a number of radar manufacturers, often to a smaller or greater extent owned by American companies. In addition to this there are companies which, using the technique described, provide the airlines with communication services. In the US ARINC

(see the section "An important difference" above) is such a company, and in France there is SITA (Société Internationale de Télécommunications Aéronautiques).

It's hardly farfetched to imagine that these companies are interested in defending their markets, and this applies to enlargements or modernizations of existing radar installations in the industrial world, as well as to new constructions in great emerging markets, for instance in Russia or China. To a considerable extent Hakan Lans's position indicating system would make these activities superfluous, and therefore constitutes a threat. Companies, like the ones mentioned, therefore may have an interest in obstructing the system.

Several expert pronouncements testify to the reality of this threat. In the interview in ATC News, July 24, 1995, Ludwig Kilchert from Lufthansa - already cited above - says with reference to Lans's system "that there would be heavy resistance to the system concept because it is very economical and would inevitably make a large hole in the existing manufacturing base."⁵³ Another expert, also cited above, namely Ed Thomas of United, contends in the same article "that huge investment in Mode-S on both sides of the Atlantic means there is inevitably resistance to acceptance of anything which might damage its chances of survival." Furthermore, the author of the article writes that "[t]he vested interests of the big avionics manufacturers which are involved in developing the individual elements of the system can clearly not be discounted as a potential pressure point."

Other interests than those in one way or another engaged in traffic control or navigation may also be of importance in this context. The very core of Lans's patent, as we have seen, is a technology for distributing time slots for communication purposes. But even if navigation and traffic control happened to be the first application of this technology, it may find applications in completely different fields as well. Companies essentially dealing with communication may, for instance, have strong interests in relation to Lans's patent. They may, because of the competition in their own markets, be interested in obstructing the technique - or, better still, try to get hold of it.

Of particular interest here is the communication company Motorola. Hakan Lans and Motorola had been in contact with each other since the end of the 1980s. On March 15, 1991, a delegation from Motorola visited Lans in Saltsjobaden, Stockholm. Two months later, Lans and Johnny Nilsson from SCAA (the Swedish Civil Aviation Association) were invited to Motorola in the US. Later on there followed a litigation about the US position indicating patent. Both Lans and Motorola had filed applications. Lans won the fight - on December 19, 1997, his US patent was issued. The events show, however, that Motorola was interested in the technology, and knew enough about it to file a patent application of its own. Eventually, however, this application was found so wanting that it was rejected. Still the question is there: did Motorola simply try, by means of the information achieved from Lans, to beat him with an application in its own name? The timing of the events, as well as the inferior quality of the application, are compatible with that possibility.⁵⁴

There is still another type of interests, which are sometimes mentioned in these contexts, but which are more difficult to assess. What I am alluding to is military interests, security interests, and intelligence interests of various kinds. Understanding how Lans's system could be used for purposes like these is not what is difficult. That, rather, is comparatively easy. In purely military operations, for instance, the system can

be used for close and exact formation flying.^{55 56} Even intelligence organizations such as the CIA (Central Intelligence Agency), the FBI (Federal Bureau of Investigation) and the NSA (National Security Agency) have great interests in the system, and even in the system's establishment as world standard. The reason is that the system greatly enhances the possibilities to supervise aircrafts and ships, and eventually even land vehicles, all over the world. Thus, it is not difficult to see that these interests are there. The difficult thing, rather, is to understand what these interests, in turn, may give rise to. Could, for instance, these interests try to get hold of the technology, for their own purposes and those of US avionics industry, by beating Lans in the color graphics lawsuit, that is by robbery? The citation from FAA above gives a hint of that possibility.

A number of actors, thus, have various kinds of interests in Lans's position indicating patent. Some may be just interested in obstructing the technology, while others may be interested in getting hold of it, and reap the fruits themselves. Is it imaginable that some actor of this kind could try to initiate an American color graphics lawsuit, in order to knock Lans out? The answer, reasonably, is in the affirmative - and possibly also, the incentives for this kind of action are stronger for those just wanting to obstruct the technology than for those aiming to get hold of it. Certainly the opening of a color graphics lawsuit would be costly for the initiators, but the interests involved are also very great. AM&S's potential contingency fee, following from a successful litigation on behalf of their client Hakan Lans, amounts, as we have seen above, to tens of millions of dollars. The values at issue in connection with the position indicating system are, however, measured in terms of billions of dollars. Thus, and from an economic point of view, there obviously was an opportunity for a deal between AM&S and some actors, or principals, with interests in the position indicating system.

A link between color graphics and position indicating

Thus, when the US color graphics lawsuit opened, the position indicating system was well developed and well known among professionals, and obviously it also challenged important and powerful interests. Up till now I have however not mentioned any direct link between the development of the color graphics lawsuit, and the interests in the position indicating system. Were that possible it would, of course, strengthen the judicial crime hypothesis. And, indeed, there is such a link.

In an effort to settle the conflict about the attorney fees Gateway proposed that Hakan Lans, to the computer companies, should transfer all the rights to his current and future inventions. This settlement was proposed on August 22, 2001 - that is after the start of the handling of the attorney fee issue in the District Court for the District of Columbia, but prior to the judgment. Gateway's proposal was sent to Lans - via fax - by Tom Schaumberg, one of Lans's lawyers at AM&S. Schaumberg recommended Lans to accept the proposal and also declared, in a telephone call complementing the fax, that Lans had to accept the proposal the very same day - otherwise the offer would be withdrawn. Thus, it was a case of blackmail. "Schaumberg was insistent that Dr. Lans sign the document and fax it to him immediately, and send the original by overnight delivery."⁵⁷

"The agreement, if executed, would have given Gateway rights to all of Dr. Lans current and future inventions, whether related to the '986 Patent or not - including Dr. Lans' STDMA technology".⁵⁸ Although not explicitly mentioned the settlement proposal thus included the position indicating patent.

Hakan Lans did not accept the proposal in its original form. At the place where it was talked about "all of Dr. Lans current and future inventions", he wanted to specify with the words "concerning color graphics". This adjustment obviously excluded the position indicating system, but thereby Gateway's interest in the proposal also came to an end. There was no settlement.

Thus, and according to the proposed settlement, Lans should pay his counterparts with, among other things, the position indicating patent. Here, in this story, this is interesting, since it is the first time we see a clear connection between the events around the two patents - the color graphics patent and the position indicating one. In Gateway's settlement proposal they are linked. It is also noteworthy that Lans's own attorney, by blackmailing and presenting an ultimatum, urged him to sign.⁵⁹

Gateway's role

In the section above, in which I described the beginning of the American lawsuit, I divided the companies notified about patent infringement into three groups - the ones sued in October 1997 were those in the second group. I also suggested that that group was not entirely homogeneous - Compaq, for instance, was to achieve a settlement of its own with Lans later on. But even if Compaq thus was somehow a dissident, the group also seemed to have a core. What I am alluding to, in particular, is Gateway which by now has appeared repeatedly in our story.

Gateway was the company which floated the issue of Uniboard and the ownership of the color graphics patent in the District Court for the District of Columbia in May 1999. Gateway likewise played a main role in the efforts to make the plaintiffs carry the total burden of the attorney fees - the plaintiffs' as well as those of the defendants. Finally, it was Gateway which proposed the settlement according to which Lans would have lost his position indicating patent.

So, obviously, Gateway has played a key role. Even so, however, it isn't easy to delineate exactly the nature of this key role. Gateway, since it belonged to the group of companies sued for patent infringement, obviously manufactured computers using color graphics. But what else did Gateway do?

The production of the company was, to a large extent, limited to personal computers. True, on its website, the company informs us that "Gateway's evolution has taken it from a PC maker to a full-service technology provider with a wide range of its own products and services, such as thin TVs, digital cameras, camcorders and systems and networking products." This may very well be so. Still, the step from these matters to advanced communications technology, which is what really concerns us here, is long.

Perhaps it's easier to find some clue to the company's behavior by looking at its economy. The company was founded in 1985, and in 1993 its stock started being publicly traded. The first years were successful but thereafter, on several occasions, the economy has been strained. This, indeed, was the case about the time when AM&S sued the computer companies - including Gateway - at the District Court for the District of Columbia. Even later on the company has been plagued by economic problems. Business Week, for instance, on September 15, 2003, opened an article with the sentence: "Gateway CEO Theodore Waitt is still fighting to get his struggling PC maker back in the game."⁶⁰

Could Gateway possibly have acted on behalf of other, hidden, interests?

The lawsuit of the Swedish Civil Aviation Administration

Hakan Lans is not alone in having had problems with the position indicating system. For a long time SCAA (the Swedish Civil Aviation Administration) has contributed considerably to the technical development of the system. In addition to this SCAA has also, in ICAO and elsewhere, acted intensively in order to get the system accepted as international standards. At an early stage during efforts SCAA found it necessary to engage a consultant - a consultant who had to be familiar with both the technology concerned and with the processes in ICAO. Finally a certain Mr. Prasad Nair was chosen - people from SCAA had met him on various occasions since the beginning of the 1990s and developed a confidence in him. Nair had been in Sweden, had learnt about the Swedish position indicating system, and had a very positive attitude towards it. At the time being Nair was also participating in US delegations to ICAO. In addition to this he was also the President of the company PMEI (Project Management Enterprises, Inc.) in Bethesda, Maryland. This company, according to its website, "develops application and proprietary software products and provides information support services." One of the main activities of the company concerns "real time aviation communications".

In January 1995 a consulting contract between PMEI and SCAA was signed.⁶¹ A consulting mission of this kind is obviously delicate. From his principal the consultant gets a lot of confidential information, which he must not misuse. The consultant obviously also has to serve the interests of his principal. It is important that the consultant, outwardly as well as in reality, acts in such a way that his principal's confidence in him remains and develops. In this particular case all of this was especially important since the mission started as early as 1995. This was one year before the position indicating patent was issued in the US. We may also remind ourselves that, at this time, only the first phase of the color graphics affairs was finished. Exactly in January 1995 the Hitachi litigation in Germany was brought to an end - the American lawsuit had not even begun.

During the first years SCAA and Prasad Nair worked well together.

"PMEI performed as a confidential consultant through 1995, 1996, and 1997 in order to support SCAA's efforts to gain standardization of its technology, gaining access to these working groups by virtue of its status as an SCAA representative.

During this time, SCAA routinely shared confidential information with PMEI and PMEI presented papers and working materials to SCAA for review prior to presentation before the ICAO working groups."⁶²

During this time SCAA regularly paid PMEI, according to an agreed upon scheme, for its services. Finally these fees amounted to more than two million dollars.

About 1997, however, after the initial seemingly good years, SCAA began suspecting that things were not in order.

"The complaint then alleges that, beginning in late 1997 and 1998, PMEI failed to provide SCAA with copies of the draft standards and working materials in a timely manner prior to their submission to the ICAO VSG (Validation Subgroup), thereby prohibiting SCAA's ability to review and approve documents in advance. At the same time, PMEI began to undermine SCAA's position in the ICAO process by inserting its own unapproved changes and analyses into the draft standards and working materials submitted to the VSG. Further, PMEI publicly advocated positions at ICAO sessions that it knew to be contrary to the positions advocated by SCAA and, SCAA alleges on information and belief, made disparaging comments and remarks to other ICAO members about the fundamental technology underpinning the SCAA sponsored VDL Mode 4 technology." ... "Through 1998, PMEI continued to undermine SCAA's position in the ICAO standardization process by altering the SCAA sponsored technical concept through the advocacy of what SCAA characterizes as unnecessary changes to the developing standard."⁶³

There also emerged information indicating that PMEI and Prasad Nair used the information they had acquired as consultants for their own commercial purposes.

"SCAA alleges that PMEI began using confidential information it gained from its consultant relationship with SCAA to begin preparation for manufacturing and selling equipment using VDL Mode 4 technology and, from 1997 to the present, has provided pricing information for such equipment to airlines and aviation manufacturers. Further, PMEI created an affiliated company, Aviation Data System Innovations, LLC ("ADSI"), to produce and market the VDL Mode 4 related equipment and computer software. This equipment and software was developed using the confidential information provided by SCAA to PMEI. Nair, PMEI's president, is also president of ADSI, which operates out of PMEI's Bethesda office."⁶⁴ "Since January 1999, PMEI has remained privy to ICAO proceedings through its manufacture and sale of VDL Mode4 technology, an activity SCAA alleges was made possible solely by confidential information provided to PMEI by SCAA. SCAA alleges that PMEI attempted to hinder the feasibility and marketability of SCAA's original VDL Mode 4 technology by delaying the standardization process through the introduction of numerous changes to the original concept. PMEI did this, SCAA alleges, so that it could profit from the marketing of its competing version of the technology and by providing consulting services to other international aviation entities."⁶⁵

Because of these events SCAA finally, on May 23, 2001, filed a lawsuit against PMEI at the District Court for the District of Maryland. About one year later, on March 14, 2002, the court, essentially, granted the plaintiff's, that is SCAA's, claims.⁶⁶ SCAA's attorneys, who thus brought the lawsuit to a successful end, were from the American firm Pillsbury Winthrop, LLP. Hakan Lans now has engaged this very firm for the lawsuit against his former attorneys at AM&S.

The decision taken by the District Court for the District of Maryland was of a kind intended to pave the way for a settlement. Still, until now, a final settlement has not been reached although there is an agreement in principle. Negotiations between SCAA and PMEI are still going on.

SCAA's lawsuit is interesting in several ways. Firstly, there are striking similarities with Hakan Lans's present lawsuit against AM&S (see the Epilogue). In both cases a patron, or a client, sues its former representative. And both cases are, in one sense or another, about the position indicating system. In SCAA's lawsuit the system is obviously at the center of the conflict - in Lans's lawsuit it is most probably so.

There are also interesting links between the two cases. Thus it has been discovered that in 1997, on at least two occasions, Lans's attorneys at AM&S and the SCAA's consultant at PMEI, had contacted each other and met. 1997, we remember, was the year for the opening of the American color graphics lawsuit.

Summary

On September 6, 2001, the District Court for the District of Columbia, pronounced its judgment against Hakan Lans. It was catastrophic for Lans - and the court pronounced it without ever having heard or seen Lans himself.

In this essay I have formulated three hypotheses about the judgment against Hakan Lans on September 6, 2001. The first one is that justice in fact was done. The second that the judgment was a result of lacking attorney skill. The third, finally, that the judgment was a planned judicial crime. The conclusion of the discussion here is that this third hypothesis by far is the most likely one. I consider the support for this hypothesis strong. Basically it looks like this.

Winning the American lawsuit should have been easier than winning the German one against Hitachi. The contingency fee contract between Lans and his attorneys also gave the latter very strong incentives for winning. In spite of these two favorable conditions they lost.

The unfortunate outcome was not of the simple, commonplace nature one would expect in a patent case as result of lacking skill. Rather it was highly strange and unexpected. The patent infringement issue was never dealt with. As an exception to the main rule in US civil cases, it was decided that Hakan Lans should pay all the attorney fees, his own as well as those of the defendants. All of this indicates skill rather than lack of skill - but skill serving some other principal than Lans.

An important difference between the two lawsuits, the one in Germany against Hitachi and the American one, concerns Lans's position indicating system.

At the opening of the German case this system was, at most, a conceived idea and totally unknown. At the time when Delphi, Talbot Lindstrom and AM&S contacted Lans in order to propose an American color graphics lawsuit, the position indicating system was well developed and well known among professionals around the world. Thus the preconditions of the two lawsuits differed, and this might explain the different outcomes.

The position indicating system touched important and powerful interests of various kinds. For some, for instance the radar industry, it might have been important to oppose or obstruct the system. For others, for example the communications industry, it might rather have been important to get hold of the technology. Whatever the purpose, a Lans defeat in a color graphics lawsuit could prove beneficial. The probability that interests of these kinds really were operating is strengthened by some additional evidence.

The initiative to the American lawsuit was taken by the attorneys, not by Lans. The attorneys, in their contract with Lans, made sure that they themselves would form the strategies for the lawsuit. Attorney Mastriani from AM&S systematically slandered his client Lans in the court, and equally systematically prevented Lans from testifying personally in the court. Finally, in order to be able fulfill his strategy, Mastriani, on August 13, 1999, under penalty of perjury, made a declaration contradicted by a lot of evidence.

"Inasmuch as I and other counsel to Mr. Lans have been repeatedly informed by Mr. Lans that no assignment had ever taken place with respect to the Lans patent, we are investigating the circumstances surrounding the referenced Assignment".

Gateway's settlement proposal, presented in July 2001, also lends support to the judicial crime hypothesis. In that proposal the position indicating system was linked to the color graphics. Although implicitly, it is proposed that Lans should pay his counterparts' attorney fees with the position indicating patent. Lans own attorney urges him, in an ultimatum, to accept the proposal.

The experiences of the Swedish Civil Aviation Administration also support the judicial crime hypothesis. Here, the conflict explicitly was about the position indicating system. The suspicion that SCAA's consultant PMEI in reality served somebody else was vindicated in court. As for Lans's color graphics lawsuit the reasons for corresponding suspicions are strong. Lans is thus not alone in having met strange problems related to the position indicating system.

The judicial crime hypothesis is thus the most likely of the three hypotheses I started out with. The judgment on September 6, 2001, was probably a planned judicial crime. The chosen instruments for this deed are not necessarily totally anonymous. Several plausible names are mentioned in the story above. The identities of the real principals are, however, so far, unknown. That there were actors with interests strong enough, and financial resources big enough, for initiating a mission of this kind, is however clear. From that point, at least, there is no reason to question the judicial crime hypothesis.

Epilogue

This story has been about the judgment against Hakan Lans on September 6, 2001. I have tried to understand that judgment in its general context. But, with that ambition, the story has also, necessarily, become somewhat circumscribed. Hence, a few additions are in order.

A good month after the judgment in September, 2001, Hakan Lans terminated the attorney-client relationship with AM&S.⁶⁷ For a fresh start he turned to the attorney Forrest A. Hainline and the law firm Pillsbury Winthrop. Together with these new representatives Lans now strives to achieve justice. Louis S. Mastriani at AM&S is sued for perjury - this, of course, is about his declaration to the court on August 13, 1999.

The statute of limitations for prosecuting Mastriani for this false testimony will run on August 13, 2004. Therefore, Lans new attorneys has addressed the United States Attorney in order to get a tolling agreement. On June 25, 2004, they wrote that "[t]he interests of justice require that Mr Mastriani's material false statements given under penalty of perjury be referred to the United States Attorney for prosecution".⁶⁸

AM&S is also sued for a number of other things, as for instance their handling of the Diamond/Micron affair, which was, as we remember, very unfavorable for Lans. The 2001 judgment itself - about the attorney fees - is also appealed.

The outcomes of all of these cases are still open. Hitherto Lans's expenses for the lawsuits against AM&S amount to about 1.5 million dollars.

Endnotes

All of the references below, which are written in bold letters, are available by links presented in the document list (www.mobergpublications.se/patents/document.html). Most of these links lead to documents posted on this site, but some of them, rather, lead to other sites on the web. The references written in ordinary letters are common, printed, references.

¹ **The judgment, p 20**

² **The color graphics patent**

³ The Hitachi lawsuit is extensively described in the book "Ett svenskt geni - berättelsen om Håkan Lans och kriget han startade", written by David Lagercrantz. Unfortunately the book does not exist in English, but the title may be translated as "A Swedish Genius - The Story about Hakan Lans and the War he Started". The book was first published in 2000 (ISBN 91-7588-369-4), and thereafter a pocket version followed in 2001 (ISBN 91-7953-086-9).

⁴ **The position indicating patent**

⁵ "Med flygsäkerheten i cockpit" ("With Aviation Safety in Cockpit"), Svenska Dagbladet, May 14, 2004 (My translation, EM).

⁶ **The contingency fee contract**

⁷ **Lans's lawsuit against AM&S, paragraphs 90-96**

⁸ **Lans's lawsuit against AM&S, paragraph 95**

⁹ **The assignment declaration**

¹⁰ **The judgment, p 3**

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- ¹¹ **The judgment, p 3**
- ¹² **The judgment, p 3**
- ¹³ **Lans's lawsuit against AM&S, paragraph 107**
- ¹⁴ **Lans's lawsuit against AM&S, paragraph 107**
- ¹⁵ **Memorandum, p 4**
- ¹⁶ **Lans's lawsuit against AM&S, paragraph 118**
- ¹⁷ **The judgment, p 4**
- ¹⁸ **The judgment, p 3**
- ¹⁹ **The judgment, p 5**
- ²⁰ **The Federal Circuit's pronouncement**
- ²¹ **The judgment, pp 5-7**
- ²² **The judgment, p 5**
- ²³ **Code of Conduct for Lawyers in the European Union**
- ²⁴ **The American Bar Association - Model Rules of Professional Conduct**
- ²⁵ **Lans's lawsuit against AM&S, paragraph 58**
- ²⁶ **Lans's lawsuit against AM&S, paragraph 9**
- ²⁷ **Bruce A. Lehman's declaration**
- ²⁸ **Dunlap v. Schofield**
- ²⁹ **The Federal Circuit's pronouncement**
- ³⁰ **The Federal Circuit's pronouncement**
- ³¹ **The Federal Circuit's pronouncement**
- ³² **The Federal Circuit's pronouncement**
- ³³ **Jaeckle, Fleischmann & Mugel**
- ³⁴ **Lans's Lawsuit against AM&S, paragraph 107**
- ³⁵ **Lans's lawsuit against AM&S, paragraph 128**
- ³⁶ **The judgment, p 9**
- ³⁷ **The judgment, p 11**
- ³⁸ **The proof**
- ³⁹ **Utterstrom's letter**
- ⁴⁰ **Bruce A. Lehman's declaration**
- ⁴¹ **Memorandum, p 1**
- ⁴² **Lans's lawsuit against AM&S, paragraph 171**
- ⁴³ **The first flight**
- ⁴⁴ "Air Navigation's Future Rests on Satellites, Microprocessor", Signal - AFCEA's [Armed Forces Communications and Electronics Association] Journal, February 1995
- ⁴⁵ "O'Hare to Evaluate Use of GPS For Tracking Ground Traffic", Aviation Week & Space Technology, March 23, 1992
- ⁴⁶ "O'Hare to Evaluate Use of GPS For Tracking Ground Traffic", Aviation Week & Space Technology, March 23, 1992
- ⁴⁷ "Eurocontrol considers STDMA as NEAN nears completion", ATC News, April 29, 1996
- ⁴⁸ "SAS makes history with certifiable ADS-B display", Airnavigation International, December 18, 1996.
- ⁴⁹ "CNS/ATM already, a patch work?", ATC News, June 12, 1995
- ⁵⁰ "A fair hearing for Sweden's GP&C?", ATC News, July 24, 1995
- ⁵¹ **Lans's lawsuit against AM&S, paragraph 16**
- ⁵² **FAA's mission need statement**
- ⁵³ "A fair hearing for Sweden's GP&C?", ATC News, July 24, 1995
- ⁵⁴ The story about Motorola and the position indicating patent is told in detail in the book "Ett svenskt geni - berättelsen om Håkan Lans och kriget han startade", written by David Lagercrantz. Unfortunately the book does not exist in English, but the title may be translated as "A Swedish Genius - The Story about Hakan Lans and the War he Started". The book was first published in 2000 (ISBN 91-7588-369-4), and thereafter a pocket version followed in 2001 (ISBN 91-7953-086-9).
- ⁵⁵ "Navy Explores European Offerings Of Airspace Datalink Technologies", Signal - AFCEA's [Armed Forces Communications and Electronics Association] Journal, August, 1998
- ⁵⁶ **STDMA for the US Navy**
- ⁵⁷ **Lans's lawsuit against AM&S, paragraph 133**

⁵⁸ **Lans's lawsuit against AM&S, paragraph 133**

⁵⁹ This is not the only case of blackmail related to the position indicating patent. Another one is "Kuppen i Paris" (The Paris Coup). This case is extensively described in the book "Ett svenskt geni - berättelsen om Håkan Lans och kriget han startade", written by David Lagercrantz. Unfortunately the book does not exist in English, but the title may be translated as "A Swedish Genius - The Story about Hakan Lans and the War he Started". The book was first published in 2000 (ISBN 91-7588-369-4), and thereafter a pocket version followed in 2001 (ISBN 91-7953-086-9).

⁶⁰ "Theodore Waitt: Gateway to a Comeback?", Business Week, September 15, 2003

⁶¹ **SCAA v. PMEI, p 1**

⁶² **SCAA v. PMEI, p 2**

⁶³ **SCAA v. PMEI, p 2**

⁶⁴ **SCAA v. PMEI, p 2**

⁶⁵ **SCAA v. PMEI, p 3**

⁶⁶ **SCAA v. PMEI, p 12**

⁶⁷ **Lans's lawsuit against AM&S, paragraph 138**

⁶⁸ **Application for referral to the United States Attorney**