



*Important
know-how
from England*
-page 4-

*Pioneer spirit
in Norway*
-page 6-

*Finnish third-
party maintenance*
-page 7-

*Quality or
nothing
in Germany*
-page 8-

Welcome to SWEDEN



Arthur Light, founder of SPS Technical Ltd., and David Larrett, managing director for the company, visited Telub Inforum over a period of a few days.

-Without a doubt we have come to the right group of companies, said Arthur Light

your staff magazine - The Telub News

The newspaper you are holding in your hand should be seen as a token of our regards and greetings from the Telub Group in Sweden.

Through the medium of The Telub News we would like to convey some information about Telub's broad area of operations to our companies outside the Nordic countries. We look upon you as an important part of our activities and are, therefore, concerned that you should get to know us and get to know what we work with.

The Telub News will contain reports and articles that we have published in our own internal and client magazines and we believe can be of interest to you. This year we hope to publish three issues and later to expand this to four issues per year.

In this first publication I would like to wish you welcome as a reader of The Telub News and, furthermore, to wish you all a very pleasant and relaxing summer.

Staffan Håkanson
President Telub Group



1987 and how it went...

Results for the Telub Group before extraordinary items (in millions of kronor):

1987	1986
50	43

The Telub Group's registered sales

1987	1986
873	756

We sold for

	1987	1986		1987	1986
FFV Elektronik	431	380	SPS, England (2.5 months)	4	-
Telub Service	90	83	Telub Industri	67	84
Telub Service, Denmark	15	13	Telub Security	1	-
Telub Service, Finland	8	5	Owell	198	147
Bitronic, Germany (3.5 months)	5	-	Teknikskolan	14	12
Telub Inforum	51	52	FFV Telub, Norway	23	7

In 1986 we achieved a result which was not bad, but did not really match up to our hopes.

For 1987 we set our sights

quite high and improved the financial result by more than 16 percent. But we did not quite reach budget projections.

We have asked our financial director, Rickard Petri, to explain and asked Staffan Håkanson to talk about expectations for 1988.

Editor:
Anita Björklén

Editorial office address:
FFV Telub AB, S-351 80 Växjö, Sweden

Telephone: 46-470-420 00
Telefax: 46-470-194 05

Print:
Svanbergs Tryckeri AB, Växjö, Sweden

If we summarize developments for the group as a whole during the year, says Rickard, the first six months were tough, producing a relatively weak result. We hadn't scraped together more than 6 million of the final 50 million kronor during the first half of the year.

-The second half of the year, though, went more or less according to plan. The company above all others producing a good result at that time was FFV Elektronik. This means that they reached the goals set for 1987 and for this we must give all the staff of FFV Elektronik the honour and credit.

Their budget achievement despite the weak beginning to the year shows that situations can be influenced, even in the short term, by taking active measures and cutting costs. This is a lesson we can all learn from in the Telub Group, says Rickard.

Good tidings at Owell

- The other good tidings during the year come from Owell. The result for 1987 means that the budget set at the beginning of the year was surpassed. Compared with 1986 the result from Owell has improved by roughly 11 million kronor. Profitability is far from satisfactory yet, but we estimate that Owell will produce a minor profit in 1988.



Rickard Petri, financial director, of the Telub Group.

Credit to Service

A change of "generation" is going on within the sphere of operations of Telub Service, which means that earlier profitable contracts are expiring and that it takes time to replace them with new contracts.

They didn't reach budget projections, but this partly depended on a budget that was set unrealistically high.

- However we must give Telub Service credit for tackling these problems in a constructive and positive way.

There is a very good sense of cost consciousness at Telub Service and they have succeeded well in sales. The future looks relatively bright for Telub Service.

A tough year

Telub Inform has had a tough 1987. The question of the managing directorship was not resolved for some time and the volume of orders has not been sufficient to provide full capacity.

- This has, of course, manifested itself in the result. Göran Danielsson, who occupied the managing director's chair on 1 December, has taken charge of the problems and is implementing a plan of action. Even if 1988 can present some challenges, I am convinced that the development will go well.

Beset with problems

Telub Industri's big problem during 1987 has been bringing in enough orders. Orders from the FFV group have decreased and in addition the sales of products for traffic control were temporary with held, but primarily it is sales to new customers that have gone more slowly than estimated.

This means that Telub Industri's registered sales were more than 35 million kronor lower than budget projections, with a result that was also under budget and is still not satisfactory. However 1988 has begun quite well, not least on account of the order from the Swedish Road Maintenance Authority, which places Telub Industri's order stock on a par with budget.

Prosperity and adversity

Our companies in Denmark and Finland, Telub Service A/S and Telub Service Oy, have well fulfilled our expectations.

- However parts of our Norwegian company, FFV Telub A/S have experi-

enced problems. I am thinking of the Telub Aune and Telub Service divisions. During the year they have been faced with unexpected adversity and costs although military ventures have gone according to plan.

New acquisitions

A number of new acquisitions were made during 1987 and everybody is naturally interested in how things have been going for these companies.

- Firstly it should be noted that these acquisitions were made during the second half of the year, which makes it difficult to draw any conclusions.

- Opiab's operations went according to expectations. The result was 21 million kronor, which has met with a positive response from the stock market.

- The results for SPS in England and Bitronic in Germany are somewhat lower than expected, partly on account of the changes we have made in accountancy principles during 1987, in order to bring this into line with the Telub Group's accounting methods.

- The companies show good profitability and our assessment is that they will provide a good contribution to the Telub Group.

Expectations

We asked Staffan Håkanson about expectations for 1988.

- In 1988 sales for the Telub Group will surpass one thousand million kronor. Our budgeted result is just around 60 million kronor, which means that we have to increase the profit by about 10 million kronor, said Staffan and continued:

- It is my opinion that budgets for all companies are relatively cautious, which means that it is a responsibility for all of us to achieve the goals set.

- During the first two months of this year we have registered sales over budget par and more than 40 percent higher than for the same period of 1987. The year, therefore has begun well, concluded Staffan. □



Portsmouth and Växjö - mutual strength

- Important know-how
- Access to the English language
- Good approach road to the EEC

These were the three principle arguments for Staffan Håkanson in August when, on behalf of Telub, he bid for SPS Technical Ltd., in Portsmouth. SPS is one of the big companies in the field of technical documentation and maintenance management in England.

- We need a stable economic basis to expand further. Telub has an important role to play in this respect, with its economic and technical strength, said Arthur Light, founder of SPS.

He was here on a visit to Sweden together with David Larrett, managing director for the company. Over a period of a few days they met with colleagues at Telub Inforum and were shown around Telub's plants in Växjö. They were sitting in the bar at Arlanda over a glass of beer waiting for the plane to London. They looked very satisfied.

- Without a doubt we have come to the right group of companies, said Arthur Light and leaned forward. There were other bidders - one was very active, declaring his commitment in writing. But although the first contacts with Staffan Håkanson were made by telephone, his manner was convincing. We were dealing with a gentleman...

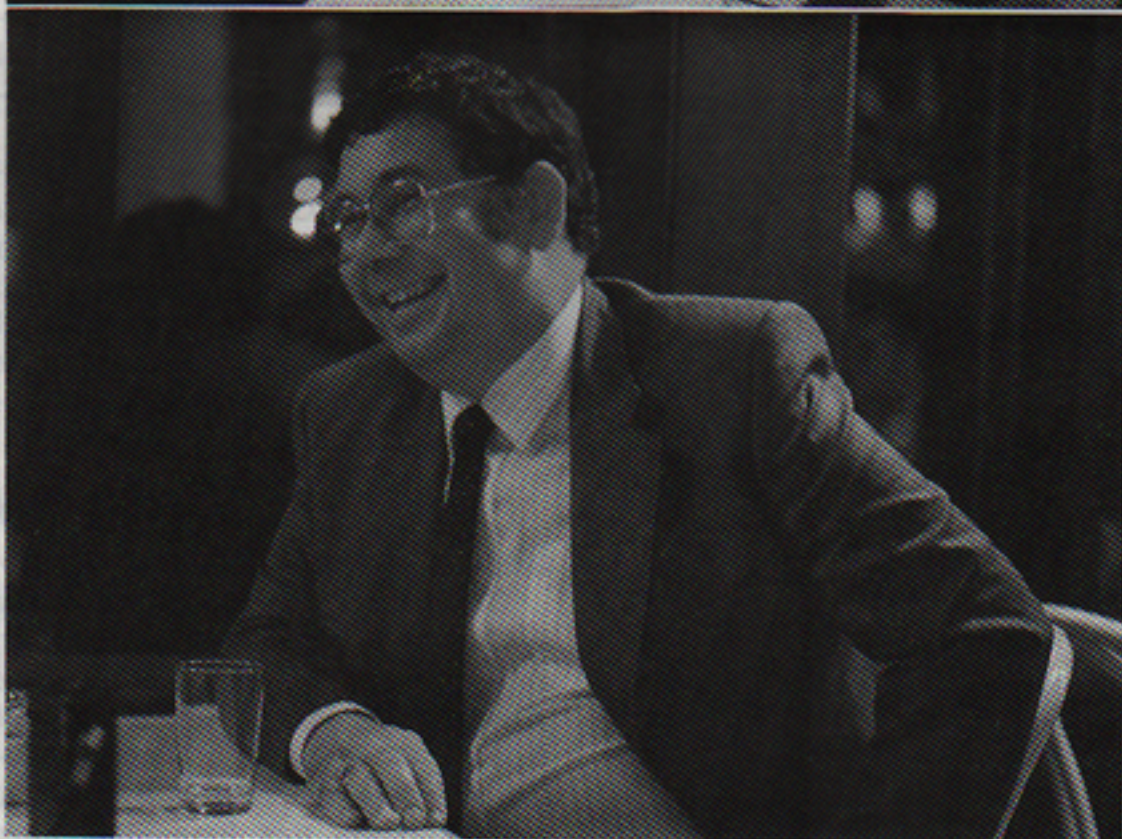
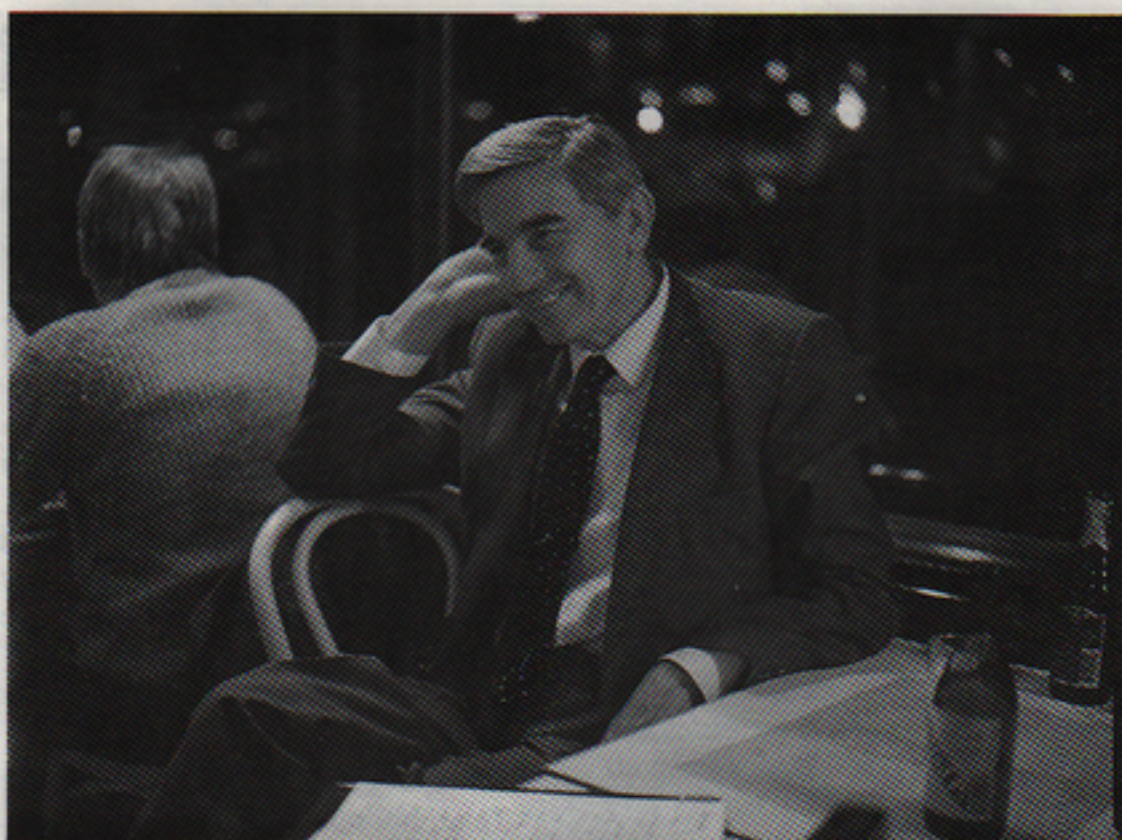
Oil and shipping

Personal chemistry, as it's called, should work in business deals. But more is needed. Telub's intention to further its commitment towards technical information and documentation suits the course that SPS follows.

In important areas the companies complement each other. SPS is strong, primarily in the off-shore industry, where they have developed a computer-based maintenance system for oil platforms.

Aune, Telub's Norwegian subsidiary could be an interesting working partner in the whole North Sea market.

As far as SPS is concerned, Telub's long experience of Desk Top Publishing



Arthur Light and David Larrett "have come to the right group of companies..."

and Electronic Technical Publishing rates highest on the list.

Today around 80 percent of Swedish industry's technical information is produced internally by employees. It means that there is a large potential market for Telub Inforum - if industry can be convinced of the advantages of placing this work in the hands of external professionals.

In the foreground

In England companies, in part, hold a different view. Unlike Swedish companies they are more conscious of the advantages of external expertise. David Larrett explained:

- England has some very large companies in the off-shore business. For

natural reasons strict requirements are placed on safety and continuous production. It concerns everything from providing unambiguous manuals to technical maintenance systems.

- The off-shore industry is under everyone's scrutiny. Therefore it is natural that other branches, too, listen to experience and follow along. Sweden will probably develop that way - even if it is presently going a little slower, said David Larrett.

SPS Technical Ltd.

The offices are in Portsmouth and Aberdeen. Arthur Light started operating in 1978. Today the company has a turnover of two and a half million pounds. □

"Paper logistics goes overboard"

-We certainly attach great value to the fact that Australia turned to us when the whole world is at their disposal, said Göran Ramfors from Telub Inforum's marketing department, talking about the order that indirectly comes from the Australian Navy.

Telub Inforum is, initially, to develop a computer-assisted system for digital text, pictures and page production for the submarines that Kockums will be building in Malmö.

Later we shall be participating in the realization of "the submarine that abolished paperwork" by developing methods for storing technical documentation using a simpler system that takes less space than the traditional way.

Kockums in Malmö, in the face of intensive competition from a German shipyard, succeeded in bringing home a contract to build submarines for the Australian Navy. The contract, which is worth around 15 thousand million kronor, comprises not only the building of submarines but also the development of shipyard resources, training, docu-

mentation, maintenance resources and so on. An important prerequisite for the deal was that Kockums could show that at least 70 percent of the order could be produced in Australia. It is therefore, largely a question of the transfer of technical know-how.

In line with this, a company going by the name of the Australian Submarine Corporation (ASC) has been formed, with Kockums as the largest shareholder with a 30 percent share.

To Australia

Contacts established between ASC and Telub during the summer of 1987 led to P O Jonasson spending more than a week in Australia in September. On the one hand milestones were laid for a five-year period, and on the other hand a project plan was worked out for the first twelve months' work developing a computer-supported system for production of digital text, pictures and pages.

Based on the project plan, we offered to participate in the development work and in December, Göran Danielsson together with Peter Bergström from the Informatik department (ID), travelled Down-Under to conclude the agreement successfully.

Systems and methods

The contract is worth more than 2 million kronor and covers services for systems and methods.

In the initial stages Peter Bergström will be spending 3-4 months in Adelaide carrying out tests and experiments that will, in turn, provide a basis for drawing up system specifications. The project manager is Jarl Magnusson. Later the real development work will begin, which is estimated to take 4-5 years and will be integrated, in its final form, with a Logistics Management Data System.

Far ahead

Of course the undertaking in itself is a very positive event and yet further proof that P-O Jonasson and his colleagues at ID are way ahead even seen in an international perspective. But it is just as important to have the possibility, later on, of helping ASC's sub-contractors with the technical documentation.

Add to this the marketing kudos lying in the fact that ASC turned to us at Telub Inforum in Växjö, when the whole world stood at their disposal. □

Göran Ramfors

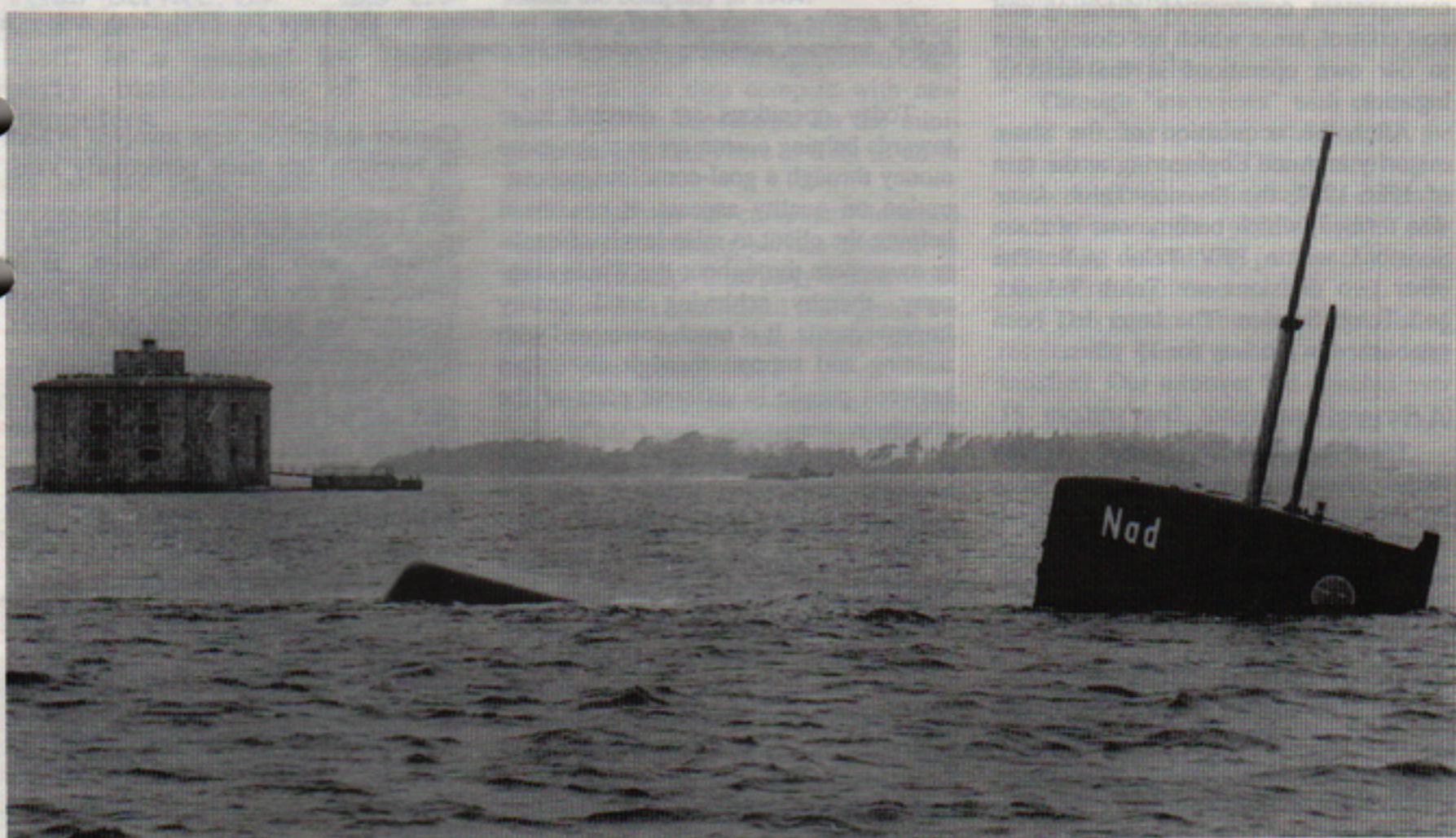


Photo: Åke Håkansson

PIONEER SPIRIT

abides in whaling industry's abandoned dwellings

Where the once so wealthy shipowners successfully carried out their operations stand yet the pompous buildings with their beautifully carved and heavy doors. So there is certainly some of the atmosphere left from the great whaling epoch in Norway's Sandefjord.

Today Telub Aune occupies these ancient dwellings. To be exact it occupies the town's former whaling laboratory, situated in the outskirts of the idyllic town of Sandefjord. Today the only things that reveal the building's former status are the magnificent lamps at the entrance, shaped in the form of whales, together with a model of a great whaling ship in the staircase to the upper floors. There is an ambient feeling that the building's former owner believed that the whaling industry would last forever.

Kinship

It can seem remarkable that Telub Aune today displays pioneering spirit because the division's operations are by no means new.

Telub Aune has its beginnings in Aune Engineering A/S, a consulting company with know-how in the fields of quality assurance, quality control, project management, construction, planning and cost control, areas which are closely akin to our own operations in the field of logistics.

After the acquisition of the share majority in Aune Engineering at the turn of 1986-1987, the division Telub Aune was formed, which became one of three divisions within FFV Telub A/S. The other two divisions are Telub Teknisk and Telub Service. The latter has been established in Norway for 15 years.

Adversity

Telub Aune has largely been involved in the off-shore market. When hard times hit prospectors in the North Sea, Telub Aune was also hit. This resulted in economic problems and staff were laid off. This happened as late as the end of 1986.

Type of commission

For a number of years, Telub Aune has been commissioned to carry out work within quality assurance and establishing quality programmes, primarily for sub-contractors to the off-shore industry.



- The positive attitude of staff makes me believe in the future for FFV Telub A/S, says Rolf P. Andersen, managing director for the company.

Today operations are directed more towards helping customers to make more money through a goal-conscious concentration on quality aspects. It can mean helping the client to raise levels of quality awareness throughout the whole company, thereby achieving total quality improvements. It is much concerned with training and support through discussion between people in different parts of the company.

Other tasks can be more specific, for example developing, together with the client, a system of cost-quality reporting.

Optimistic today

- Our collaboration with the Logistics department in Sweden has been intensive during the past year, says division manager Øystein Wærnes. Our contacts with Jan-Christer Andersson and others from the Logistics department have meant a lot to us. The educational work - Management by Quality - that Jan-

Christer and others were involved in here in Norway, has been particularly valuable.

- Collaboration with our colleagues in Sweden, also in the future, is a prerequisite for us to achieve our goals. Together we shall develop our product, quality assurance/quality control.

We have once again begun to recruit staff and we are turning once again to the off-shore market amongst others.

Hope in North Sea

- We are working now under different circumstances. Our breadth of knowledge is of interest to the client. I am thinking now of what we can offer with the pooled resources of Telub Teknisk in Oslo and Telub Inform in Växjö with SPS Technical Ltd. in England. A large part of our hopes for the future rest in the North Sea. We are on the road to an exciting future. □

Telub Teknikk finds its form

The pioneering spirit displayed by our colleagues in Sandefjord is no less apparent among staff at Telub Teknikk in Oslo.

The office that is being built up there is almost completed.

There is still a lot to do before we can say that Telub Teknikk has found its form, says Jan Fränlund at FFV Elektronik, who is temporarily on loan to FFV Telub A/S in Oslo to serve as division and marketing manager for Telub Teknikk.

Together with our Norwegian colleagues and with Gunnar Lindberg and others from the Logistics department in Växjö, Jan has worked towards establishing the company on the Norwegian market.

The Norwegian market, first and foremost the Norwegian Armed Forces, is not completely new to us. FFV Elektronik has had commissions there for a number of years.

Norwegian product

Last autumn, in close cooperation with the Logistics department in Växjö, Telub Teknikk produced a number of logistics handbooks for the Norwegian navy, who are developing norms and systems for how maintenance should be carried out in the future.

A great deal of this work was carried out in Växjö in the beginning, but eventually more and more of it has drifted over to become a Norwegian product.

- This is also how we should be working, explains Jan. We envisage a three-year plan in which, during the first year, we transfer "know-how" from Sweden to Norway; the second year the work will be shared evenly and the third year the main part will be with us here in Norway.

Own workshops

Another project that is at the fore is a system of analysis, newly supplied to the Norwegian army, for their radio stations. Telub Teknikk, in collaboration with the Radio and Logistics departments in Växjö, have developed a proposal for dealing with maintenance, modification etc. for the future.



Jan Fränlund, division manager for Telub Teknikk.

Even the Installation department has a commission underway in Norway. Telub Teknikk has been the intermediary here in carrying through the deal, which concerns installation work in mobile equipment for the army. It primarily concerns prototypes at the moment that we hope may eventually develop into series production.

- The idea is then, explains Jan, that the installation work will be carried out within FFV Telub A/S and in our own workshops here in Norway. The great challenge we have before us is to open up the market in the areas we have concentrated on, so that we can achieve stability and expansion. With the positive attitude shown by staff, we shall succeed in doing this, concludes Jan. □

Finnish third-party maintenance

During the last two years Telub Service Oy has created a strong profile for itself, in a market for third-party maintenance of mini-computers.

Throughout the whole of Finland over the last two years, Telub Service has succeeded in establishing important customer contacts; everything from small accountancy companies to the largest industrial corporations.

- We provide maintenance and improvements and replace everything that increases the service life of our customers' equipment, says Jarmo Merikoski,



Jarmo Merikoski, managing director of Oy Telub.

managing director for Oy Telub, who joined the company in 1984.

- It is almost always profitable to increase the service life of equipment. Older equipment can then compete with new machines. We concentrate on the mini-computer market. There is a lot to do in this area.

The number of computers installed motivates a growing service market. In the rest of Europe third party maintenance has been well established throughout the 80s. Good service has quite simply replaced new machines.

When Computer Machinery Company (CMC) was acquired by Telub in 1982, Telub Service got a start in Finland

- We began to ask ourselves: What is required of a service company? Just why had the Finnish market fallen behind? What areas should we concentrate on? The answers provided the basis for our future efforts.

A service company stands or falls on the merits of its staff. It is therefore important to employ computer-literate people with knowledge of IBM's and

Digital's product range, according to Jarmo Merikoski.

Nation-wide

Through "interviews" with computer users a clear picture emerged of the requirements needed. The recipe was a concentration on selling service contracts to end-users, in parallel with concentrating on training personnel to meet customers' requirements.

- This concentration is now producing results. To put it mildly, we are very satisfied. Our turnover has doubled over 18 months and today amounts to 10 million kronor, says Jarmo Merikoski.

Telub has offices in Helsinki, Turku, Tampere and, from the beginning of this year in Oulu. During 1988 two more offices will be opened in the central parts of the country. Telub will thereby become a nation-wide company. Logically enough, interesting possibilities are now emerging of cooperative ventures with some suppliers of computers who only provide service in the Helsinki area.

- Success breeds success, says Jarmo Merikoski. □

THE ART OF DEVELOPING A MONITORING SYSTEM

FÖ/FTN, FFV500, FÖT, FÖG1 - for the uninitiated it looks like a secret code. But behind it lies an advanced monitoring system.

The Technical Monitoring department within FFV Elektronik has developed a monitoring system for the combined armed forces. This nation-wide system operates through the armed forces' tele-network, in a large number of applications for the air force, the army and the navy.

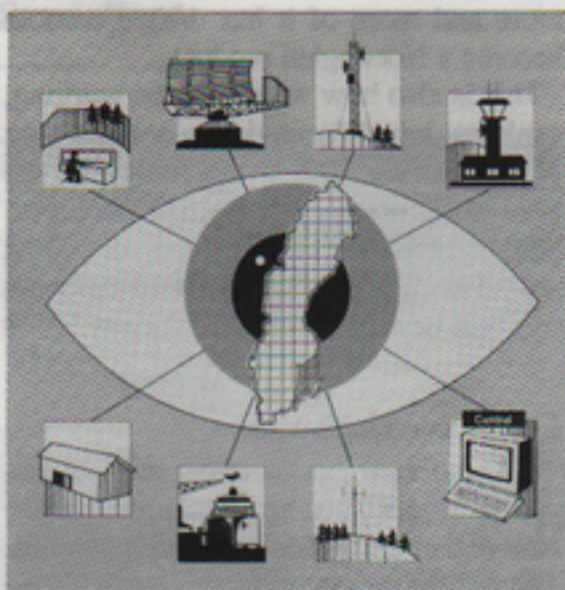
Know-how in the field of monitoring has been under continuous development since the sixties.

In the market of monitoring systems FFV is faced with complicated technical problems, stretching from requirements analysis to the development of completed systems and machines.

In defence circles FÖ/FTN is the name given to the system which is

known as FFV500 in civilian applications.

The latest in the series of developments in equipment is a concentrator, FÖGI. Beginning in 1988,



Technical monitoring means that with the help of technical equipment, materials systems and plants with various functions such as power, maintenance and observance, can be monitored. This can be done locally or remotely.

it is being installed in all the armed forces' big tele-stations and will replace equipment that is 15 years old. FÖG1 can communicate with up to 32 monitoring stations and 8 different remote terminals simultaneously and handle up to 64,000 alarm points.

Coordinated monitoring

Ingemar Engdahl, one of the 38 employees in the Technical Monitoring department who are responsible for development of the system. He says:

- Our intention is to coordinate monitoring of all functions in the system - monitoring, electricity supply, mechanical and electronic functions and telecommunications. The collective information can be controlled by many receivers.

- The advantages are numerous: there is no need for scheduled routine visits as the stations monitor themselves. Faults are discovered at an early stage - even when a plant is not being used operatively, Ingemar explains. □

Telub Bitronic - quality or nothing

Technical information and computer service, two of the Telub Group business areas, achieved direct contact with Europe through the acquisition of the English SPS Technical and the German Bitronic.

Together with Telub Bitronic, Telub Service strengthens its position as one of Europe's leading companies within third-party maintenance.

When Telub acquired 70 percent of Bitronic Hardware Service in September last year, Bitronic was primarily geared to repairs on returned personal computers and peripherals. During the following six months the alignment towards third-party maintenance has now been strengthened.

Telub Bitronic has branches in Düsseldorf, Hamburg, München and Stuttgart. The head office and workshops are in Frankfurt - one of Europe's pulsating cen-

tres. It's here we meet Günther Knopp, one of the company owners and prominent figures.

Philosophy

Bitronic started ten years ago, says Günther Knopp. During the years we have built up a significant confidence on the market with, for example, Fujitsu, Minolta, Burroughs and Siemens as stable customers.

Together with Gottlieb Göhnert and Manfred Ogradowzyk he owns 30 percent of the company which has 45 employees. The leadership is on a friendly basis without any large organizational dividing walls.

Göhnert is responsible for the repair centre, Ogradowzyk for administration and Knopp for sales and the establishment of Bitronics field service.

- One part of our philosophy is to simply develop the areas which we are already good at - primarily in cooperation with the manufacturers. In one case recently, we have even taken over a



Günther Knopp, Telub Bitronic develops German third-party maintenance.

manufacturer's own repair centre.

Euroserve, a collaboration between third-party service companies in Europe, has worked as a "contact agency" for Telub and Bitronic. The companies have got to know each other very well during the nineteen-eighties.

This can be one of the explanations for the fine existing cooperation and exciting exchange of know-how according to unanimous information from the chairman of Telub Bitronic, Göran Stenudd and the German head office in Frankfurt. □

FFV Elektronik on Swedish Rails' first high-speed train

Swedish Rail's (SJ) great venture into high-speed trains has provided FFV Elektronik with the chance of participating in the advances in new technology. SJ has chosen us as a partner in developing signal boxes - so important a factor in rail traffic safety - for their high-speed trains. Without reliable signal boxes there can be no high-speed trains

In the autumn of 1989 SJ will be putting high-speed train services into operation between Gothenburg and Stockholm, trains with top speeds of 200 kph. SJ intends to use fibre-optics in the signal safety systems and have ordered material and training/consultation services in conjunction with the installations.

The right speed

In technical terms it means using fibre-optics to transmit information to control traffic signals and booms at level crossings, approximately 50 of them. The Opto-system is part of SJ's total ATC-system (Automatic Train Control), which checks that the speed of the train is correct, that no signals pass without acknowledged action and that the booms have operated properly.

The Optosignal system consists really of two sub-systems, ATC-opto and Train selection. ATC-opto is only a modification of the existing ATC-system, in which the galvanic signal transmission system is exchanged for a fibre-optic system. Train selection is a new system which determines if a passing train is a high-speed train or not. This is crucial in deciding if a boom should be dropped.

The sections Optic Communication and Electro-optics are responsible for the training of SJ's personnel.

The time is ripe

Why is SJ concentrating on fibre-optics in its signal safety system?

Christer Löfving at SJ explains:

- Today we have an ATC system that works well, in which radio transmitters on the rails transmit information to the locomotive. Information to the transmitter travels along galvanic cables. On account of the risk of interference, present transmission distances are limited to 300 metres. With the Opto-system we can go up to six km. Technically this can be solved using the old system, but fibre-optics make it smoother and cheaper, and naturally SJ should follow technical developments.

Within the field of rail technology fibre-optics are very well suited. Information that is transmitted over optical

fibres is not troubled by interference, and there are plenty of sources for electrical interference in the vicinity of a railway. The time is ripe, quite simply, for the introduction of the new technique.

Important training

- As far as training is concerned, Christer Löfving continues, it is important that personnel who are to install and service the system receive thorough training. In the end everything depends on them. And the training they receive here at FFV Elektronik is good. The right mixture of theory and practice. It is important that they get the technical background. Opto-technique is so new.

- The high-speed train project is important and a big one for SJ. What we are primarily working with now is a stretch between Stockholm and Gothenburg. If everything works out well, during the 90's we shall be continuing with development of the Stockholm-Malmö, Stockholm-Sundsvall and Gothenburg-Malmö sections, Christer concludes.

Good collaboration

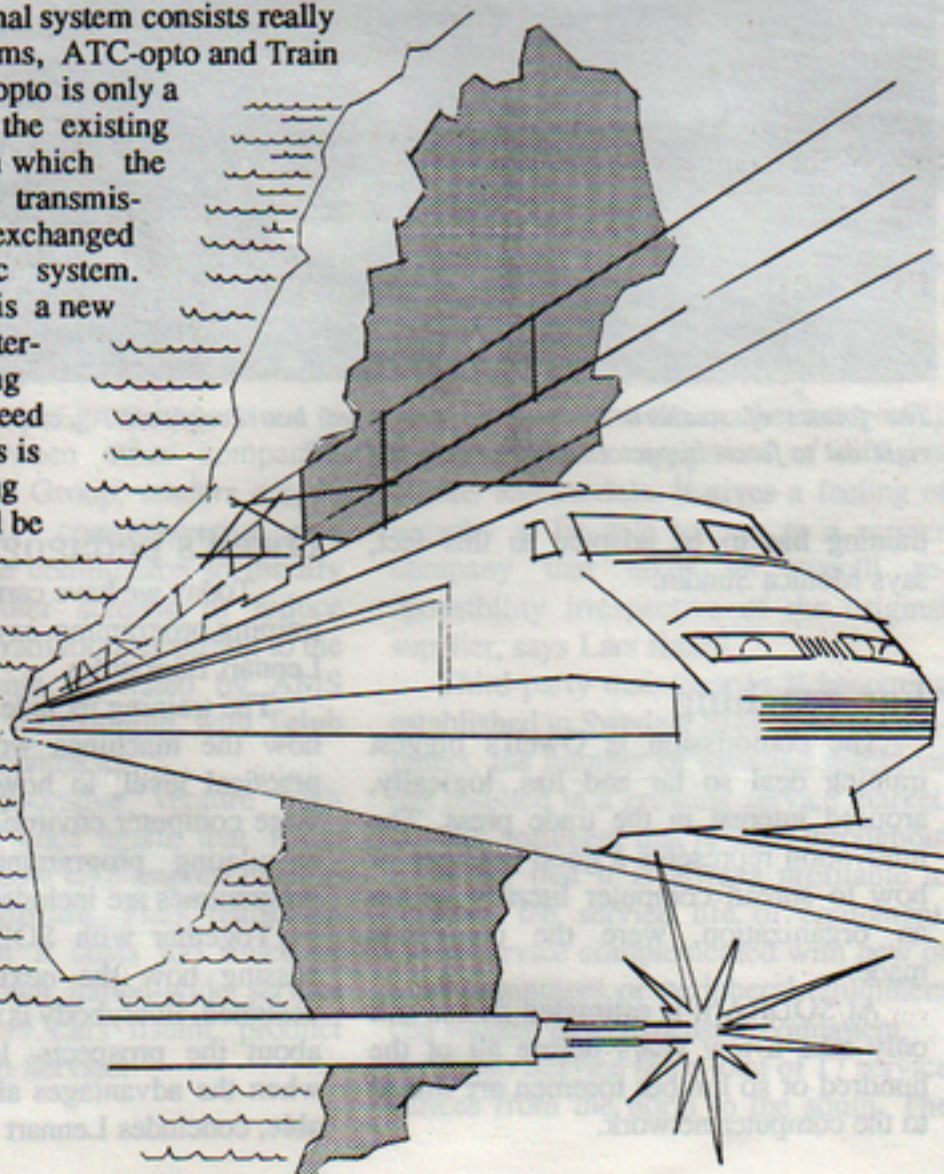
Sven-Åke Lövkvist, project manager:

- This order from SJ demands a lot from us. Remember it concerns signal safety. It's nice to show SJ and Sweden that we are way ahead in technology know-how.

Sven-Åke would also like to point out that the deal with SJ is an example of how cooperation between different departments can create new business possibilities, and of how rewarding collaboration has been.

Hans Sundkvist, together with Per Torphammar, Åke Sidmyr and Anders Runesson, who have been responsible for the training, agree totally.

FFV have also had follow-up work from SJ, partly in providing instruction manuals for fibre-opto work and partly in selling three of their own fibre joint booths. □



Computers in the woods

"The forests of southern Sweden are being fed into computers" was a headline in advertisements for Owell that could be seen last autumn.

-Behind them lies the fact that Södra Skogsägarna, The Southern Swedish Forestry owners Association, SODRA, with support from Owell, have introduced something completely new: personal computers for forest inspectors in the field - or, more correctly - in the forest.

With the aid of a personal computer linked to a mainframe computer, SODRA's forest areas can be administered more autonomously. The information travels in both directions; via the computer network inspectors can also access up-to-date information.

For example as inspectors are able to control invoice routines from their own personal computer, it leads to decentralization and the delegation of responsibility right through the organization.

No obligation

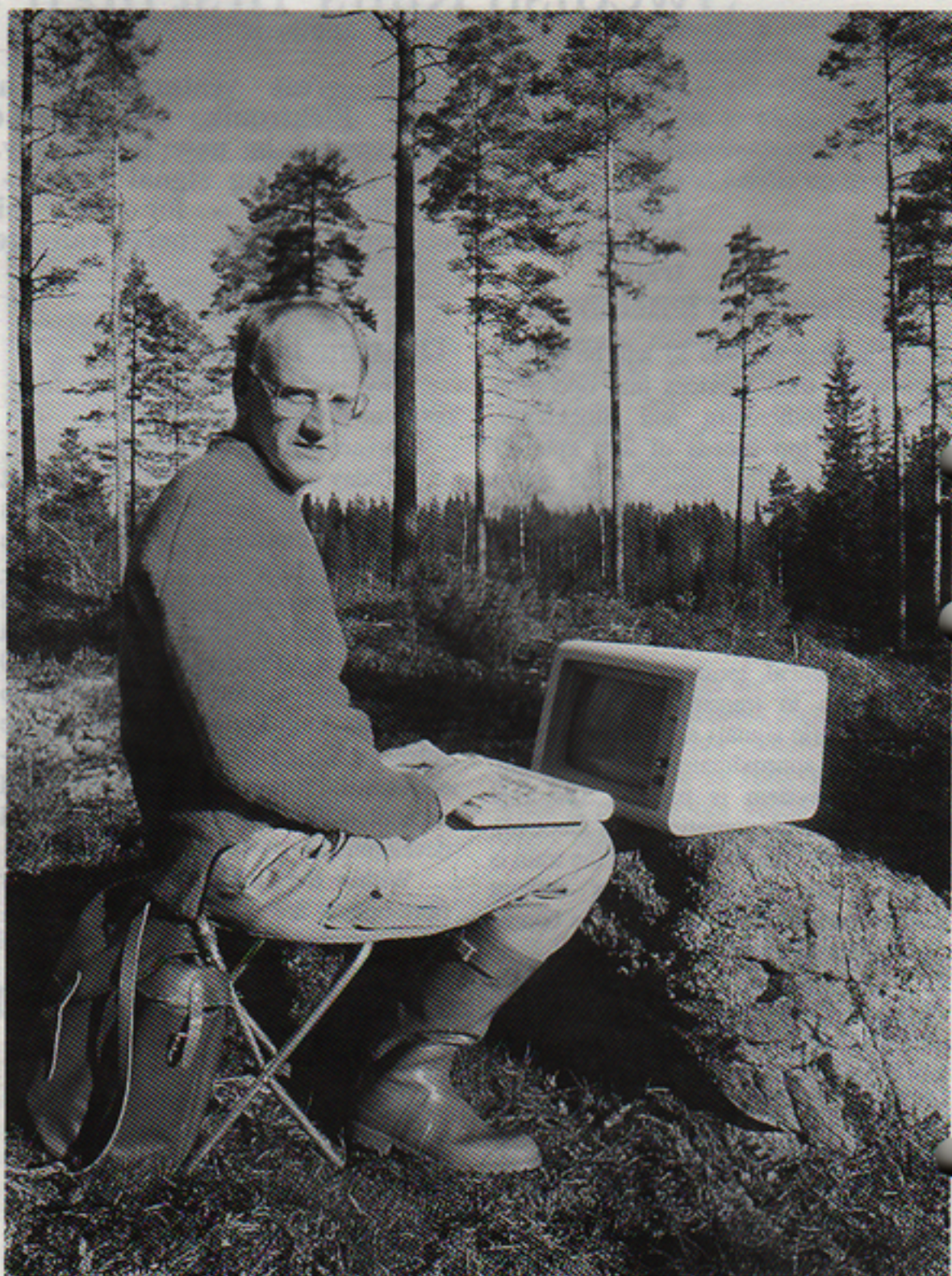
Owell's range of products has been concentrated around the market's leading manufacturers and those that provide the best value for money: IBM, Apple and Compaq. Great pains have been taken in developing the knowledge of personnel about the products and about the situations in which personal computers are effective tools.

Owell's competency as a consultant, with specialist knowledge of networks and communication, with practical applications support, training adapted to its customers' needs and nation-wide service provide an important competitive edge.

Monica Sundin, regional manager at Owell Training in Växjö, has developed SODRA's training programme.

- SODRA Skogsägarna does not force a computer on anyone. The inspectors decide for themselves if they want to be a part of the programme. This is an important reason why the introduction of computers has gone as well as it has.

- You have to remember that the new users have virtually never come into contact with computers before. The



The forests of southern Sweden are being fed into computers - computers have stretch right out to forest inspectors with the help of Owell.

training has to be adapted to this fact, says Monica Sundin.

Far-reaching

The commission is Owell's biggest training deal so far and has, logically, aroused interest in the trade press. The innovation represents a good example of how to spread computer literacy within an organization, were the comments made.

At SODRA it is estimated that it will only take a few years before all of the hundred or so lumber foremen are linked to the computer network.

Owell's pedagogics

- Today we have carried out half of the training programme, says course manager Lennart Bäckström.

The training includes everything from how the machines work, on a purely practical level, to how they work in a large computer environment. Data bases, calculating programmes and graphics programmes are included.

Together with SODRA we are discussing how the next step should be designed. Everybody is really enthusiastic about the prospects. It's always easier when the advantages are directly noticeable, concludes Lennart Bäckström. □

Siemens and Telub Service

now in new computer project

More flexible way of finding jobs for job-seekers

New low-radiation computer screens at Job Centres

4 000 computer terminals are now being installed at Job Centres throughout Sweden. The German electronics company, Siemens, with the help of Telub Service and Telub Industri has been able to supply the Swedish Employment Agency (AMS) with a total solution.

When Siemens realized that the service and installation work would be far too heavy a burden to bear, on the recommendation of AMS, they engaged Telub Service.

In the field of third-party maintenance, Telub Service has become the market leader in Sweden and one of the biggest in Europe.

The commission included installing all the terminals and coupling them to Siemens' mainframe network. The technique gives job-seekers instantaneous information about different vacancies within different occupations throughout the country.

Cooperation

Siemens attaches great importance to cooperation between other companies within the Telub Group; tenders are, in that way, fully comprehensive and competitive. The commission to modify Siemens' computer screens to reduce electromagnetic radiation according to the strict requirements stipulated by AMS was carried out, for example, with Telub Industri as a subcontractor.

- The collaborative venture with Siemens shows, once again, that Telub Service's know-how is of interest even to suppliers of hardware. They realize in many cases that it costs too much to build up their own nation-wide service organization, says Lars Ilstam, product manager at Telub Service.



Jan-Erik Krook, one of Telub Service's many service engineers, who installs and services the Employment Agency's computer equipment. Jan-Erik is here visiting the Employment Agency (arbetsförmedling) in Mölndal.

Overall responsibility

- End-users on the market are getting more and more equipment of different brands and models. It gives a feeling of security to be able to turn to a service company that takes an overall responsibility irrespective of the original supplier, says Lars Ilstam.

Third-party maintenance is becoming established in Sweden. In the area of computers, the number of installed machines has resulted in a growing service market. A sales argument that is valid throughout is to say that it is always profitable to increase the service life of equipment. Good service complemented with new or used computers or peripheral equipment can replace new, expensive equipment.

Telub Service has a total of 17 service offices from the north to the south. The

head office is located in Växjö, where Telub Service Repair Center is also situated, one of Sweden's biggest repair workshops for computer equipment. There you will find equipment for effective fault location and testing equipment for system tests together with experienced technicians.

The total number of employees is 270, of whom 162 are in Sweden. The others are to be found in Telub Service A/S in Denmark, with three offices, in Norway with four offices and within Telub Service Oy in Finland with four offices. Also, Telub Service is the principal owner of the German company, Telub Bitronic GmbH with their five service offices. The managing director for Telub Service AB is Göran Stenudd. □

Order from Highways Authority worth millions goes to Telub Industri AB

Many design engineers at Telub Industri AB have been working feverishly during the spring. As early as April five prototypes of a completely new traffic counter were ready.

The work of tendering has gone very quickly - as late as October last year we at Telub knew nothing of the big project, says Enar Martinsson, managing director of Telub Industri AB in Växjö.

The first part of the order is for 1,000 traffic counters that are going to be used on Swedish roads in January 1989. The value of the order amounts to 20 million kronor.



Using traditional techniques you can only count the number of axle pairs passing over the black hose on the road. With Telub's micro computer technique it is possible to identify 14 different types of vehicle.

The technology means that the Swedish Highways Authority will have completely new possibilities at their disposal for assessing the toll on roads. Previously it was only possible to count the number of axles passing over the black hose on the road. With Telub's micro computer technique it is now possible to differentiate between 14 types of vehicle.

Important teamwork

John Jacobsson, who is responsible for the Design department and one of the 120 employees at Telub Industri AB, points out that the order was not only for supplying the "instruments" themselves.

- The teamwork between Telub Industri, Telub Inform and Telub Service was decisive for us being entrusted with the task. Inform will take care of the technical documentation and Service will be responsible for all the maintenance, says John Jacobsson and continues:

The programming work is being done in conjunction with a company in Mariefred, Allog AB, who have the technical skills in the field of traffic.

At Telub Industri AB, one of the country's most modern resources for design and production of electronics has



John Jacobsson, chief designer

been built up. There are customers from the engineering industry who have not previously worked with electronics, to those customers with more experience of the field. The business philosophy behind our work is to offer industry total solutions - coordination between design adapting production and testing. And by all means in combination with technical documentation from Telub Inform AB and service from Telub Service AB.

AIR BAGS FOR MILLIONS



It's not about ventilation nor a new defence technique - it's about inflatable air cushions. Not least in the USA air bags, as they are called, are being installed as a complement to seat belts in different types of vehicle.

In Sweden air bags are, so far, not a well-known phenomena. But according to

Åke Ljungberg, section manager at the Swedish Traffic Safety Board (TSV), the technique is on its way to being introduced in Post Office cars, amongst others. The postmen in have difficulty using seat belts because of the many stops they make at letter boxes and houses.

- Air bags can undeniably save lives, says Åke Ljungberg. If you sit near the

windscreen you can injure yourself unless your car has air bags, even if the seat belt holds.

The company Autoliv-Cipro today supplies the vital electronic component that monitors, controls and releases air into the bag when the car is subjected to heavy G-forces. Telub Industri has adapted production and is responsible for the manufacture. □