

Blick DURCH DIE Wirtschaft

Newspaper for finance, taxes, law, and management

Innovations

Operating hours based on customer demand

Working time accounts and group work to counter seasonal fluctuations

- mir. FRANKFURT/M. With flexible operating hours between 60.5 and 98 hours per week and working hours for employees between 29.5 and 53 hours, Aeroquip GmbH has adapted to the fluctuating demand from its customers in the automotive industry. - On Tuesday, the manufacturer of special hoses received the "Best Practice 1997: Flexibility in Turbulent Markets" award for this innovative combination of operating and working hours. The prize is awarded by the Frankfurter Allgemeine Zeitung in conjunction with the Institute for Productivity and Quality.

As a supplier to the automotive industry, Aeroquip is heavily dependent on seasonal fluctuations in demand. dependent on seasonal fluctuations in demand. However, until three years ago, short and rigid operating hours prevented the company from responding flexibly to customer demand slumps or peaks.

In order to achieve the required flexibility in production, Aeroquip decided to align its operating and working hours with demand. The

- The "flexibility model," as it is called within the company, comprises individual modules. Each employee has a flexible working time account with the obligation to be at work for 1957.5 hours per year, including vacation entitlement. The paid weekly working time is 37.5 hours, and the minimum weekly working time is 29.5 hours, which is the maximum for the company. 29.5 hours, and the maximum is 53 hours. Time credits or

-debts are independently offset by the employees within the group up to a maximum of 80 hours. Remaining peak times are compensated with bonuses. Negative working time balances are borne by Aeroquip. If there is a steady surplus, new employees are hired, and if there is a permanent deficit, there are short-time working arrangements and layoffs.

Working groups of 15 employees each (in four subdivisions of the company) regulate workloads and leisure time compensation largely independently. If the order situation varies in the different areas, employees can switch to other areas (Springer). -- An on-call service of three or four employees ensures flexibility in the event of unforeseeable workloads. There are three plans for operating hours: normal operation of 75 hours per week, low-load operation of 60.5 hours per week, and full-load operation of 98 hours per week, including Saturdays.

As a result of the flexible working and operating hours applied since 1994, management cites improved responsiveness to fluctuating order volumes and improved adherence to delivery dates. The elimination of overtime pay has reduced personnel costs. Group work has halved sick leave from six to three percent. Thanks to flexible working hours, the company has achieved a better competitive position and made its first new hires.

- Bernhard Dorn, Chairman of the Board of the Institute for Productivity and Quality, emphasized the growing importance of information technology in the constantly changing corporate IT landscape. He explored the question of the extent to which business processes can be accelerated or organized in parallel. The central information technology concept for this is called "work group computing." This is the consolidation of information technology capabilities under a common goal: communication and cooperation regardless of time and space.

The list of advantages is long. All necessary skills could be combined quickly and spontaneously, regardless of location, across continents. All team members would have access to the latest work results. Responses to suggestions would be immediate, and project management could intervene at any time based on complete information. -- The free flow of information offers the opportunity to loosen the rigid binding of employees to defined processes. This would be a step toward "more personal competence, responsibility, and sovereignty for the individual," Dorn outlined. Because these are precisely the qualities that are urgently needed in today's agile companies.

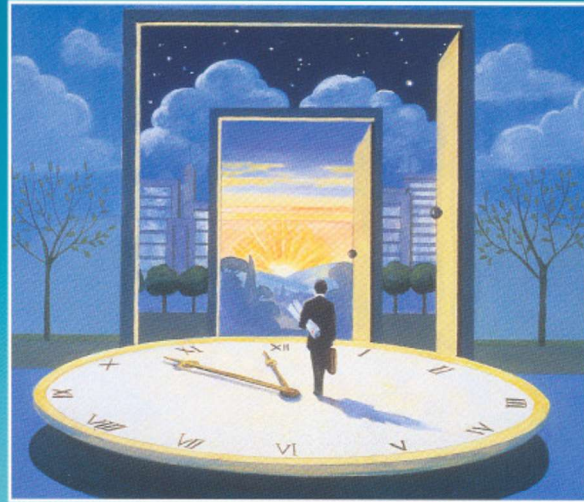
Blick durch die Wirtschaft,
September 7, 1997



Deutsche Gesellschaft für
Personalführung e.V.

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Personalführung



Focus Theme
How to secure jobs through Flexible Working Times

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Personalmanagement im 21. Jahrhundert

Bereichsentwicklung – Ein Baustein auf dem
Weg zur lernenden Organisation

Insourcing in der Personal- und
Organisationsentwicklung

Serie: Internationales Personal- und
Kulturmanagement



1/97

The path to the annual working time model

**Example: Aeroquip Hose Factory
Hann. Münden, Lower Saxony
Germany**

Within the American TRINOVA Group, the German subsidiary Aeroquip and its plant for hydraulic and special hoses face tough internal and external competition. End customers from the automotive industry and industrial customers from Europe and the Far East are regularly increasing their demands for low prices and short delivery times while maintaining the same quality. Competitors in the eurozone due to currency parities and

In competition with other plants belonging to the group in Wales, the USA, and Brazil, the rigid working hours combined with high labor costs (...) are a serious obstacle.

wage levels, operate with wage costs that are up to 40% lower and longer daily, weekly, and annual working hours. The Hann. Münden plant in the Weserbergland region and its 230 employees benefit from the fact that high-quality special hoses require a well-trained workforce and infrastructure, which is not available anywhere else in the world. In competition with other plants in the group in Wales, the USA, and Brazil, the rigid working hours in conjunction with high labor costs pose a serious obstacle.

- The company and its customers
- TRINOVA Mission/Quality values
- QOS – The continuous improvement process
- The plant and its initial situation
- The path to the annual working time model
- The shift model and the on-call pool
- Economic results and outlook

The company and its customers

On the plus side, the company has invested heavily, not only in machinery and equipment, but also in the so-called soft factors: group work is in the introductory phase, hierarchical levels have been significantly reduced both globally and in the factory, and a continuous improvement process designed to involve all employees has taken hold. Management by Objectives also and especially includes employees in production, within the framework of global strategies that are known to everyone, and the strategic architecture of the global division and the team goals of a working group derived from it are posted on the bulletin boards in the factory.

Group work is in the introductory phase, hierarchical levels have been significantly reduced, and a continuous improvement process designed to involve all employees has taken hold.

Above all, the global market is growing, especially for climate control and steering assistance products for the automotive industry.

The plant and its starting point

Divided into four manageable "factories within the factory" (Focussed Factories), which are largely independent in meeting the demands of internal and/or external customers, the plant repeatedly experiences seasonal peaks in



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Summary

Aeroquip, a TRINOVA company, produces hydraulic and other hoses for automotive and industrial applications in the USA, Brazil, Wales/UK and in Germany. Short working hours, rigid work rules and high labor costs were a clear disadvantage for the German plant, located in a small town in Lower Saxony – only partly balanced by its product quality image and well trained workforce.

In a joint effort management, workers and works committee have now addressed those weaknesses through a highly flexible working time pattern. The work week has been replaced by a work year, allowing to adjust to seasonal and other fluctuations of the order book without the pains of dismissal and costly overtime. A monthly wage is being granted regardless of actual hours worked and plus or minus hours compared to the previous work week are charged to individual employee time accounts to be settled after a 12 month period. Time accounts may be overdrawn by up to 80 hours per person both ways, replacing overtime pay and premiums. Workers rotate into a stand-by pool every 6 weeks or so, to be on call for the first hour of their assigned shift at no extra cost or investment to the company other than a cellular communication device.

The new model has improved delivery performance and made costs more competitive at the German plant, which now hired additional people, over and above the initial job guarantee linked to the flex-time model.

Employee empowerment, teamwork and well analyzed manufacturing processes were critical for the new model to succeed, which now becomes the key driver to employee training development.

spring and fall, and often a lull at the end of the year. Added to this are short-term fluctuations in demand, which in the past have led to a cycle of short-time work, layoffs, and new hires.

An initial initiative by the Human Resources Department at the end of 1995, with the proposal of a comprehensive revision of all existing working time regulations and a flexi-model (...) initially brought nothing but friendly recognition from the plant management (...)."

The collective agreement applicable to the plant (rubber industry in Hesse, Lower Saxony, Rhineland-Palatinate, and Saarland) has provided for the possibility of flexible annual working hours since 1994, with a steady monthly salary, as was already introduced two decades ago.

An initial attempt by the human resources department at the end of 1995 to present a comprehensive revision of all existing working time regulations and a flexitime model "as a basis for negotiation from the employer's point of view" initially yielded nothing but friendly recognition from the plant management and increased requests for training of the works councils in accordance with Section 37 (6) Works Constitution Act (BVerfG).

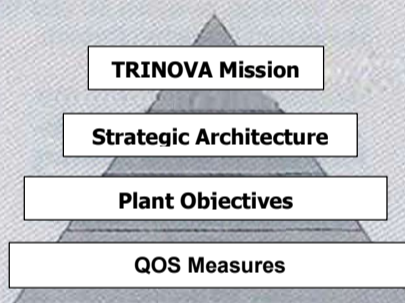
The path to the annual working time model

A joint workshop with a broad range of participants got things moving. The participants — plant management, executives, foremen, supervisors, team representatives, as well as members of the works council and the union represented in the company— developed a common understanding of the initial situation in the plant, and both sides learned from each other where the "sacred cows" were likely to be found and what seemed to be open to compromise.

"A joint workshop with a large number of participants got things moving. (...) Both sides learned from each other where the 'hot potatoes' were likely to be, what seemed compromiseable and what was not."

An important side effect of the broad participation was that the project became known throughout the company.

TRINOVA Mission/Quality Values



Focus on the needs of our customers

Quality Technology

Innovation

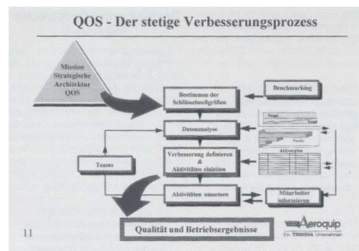
Integrity

Teamwork

Aeroquip

QOS

The continuous improvement process



The plant management then formulated its requirements in four key points:

- The goal is a capacity corridor between 60 and 90 hours per week in the typical two-shift operation.
- Capacity changes must be possible at short notice.
- Bottleneck functions must be fully staffed without interruption in all cases.
- The costs of overtime must be reduced.

A project team named "Processes and Human Resources" was set up to implement this.

"Over several weeks of painstaking work, the project team completed its homework: detailed documentation of all work steps in the entire manufacturing process, their visualization, and analysis of the personnel requirements for each manufacturing step."

consisting of plant management, work preparation, several machine operators and group spokespersons, and two members of the works council. The human resources department took on a supporting role. Over several weeks of detailed work, the project team completed its homework: a detailed documentation of all work steps in the entire manufacturing process, their visualization, and analysis of personnel requirements for each manufacturing process step. The flat hierarchies existing in the plant and the preparatory work carried out for DIN ISO 9000 certification were beneficial in this regard.

As a result, all shift schedules were revised, taking into account the vacation, with working hours made more flexible and vacation no longer bridged by short-term temporary staff, as has been the case up to now. Also taken into account was sick leave, for which a joint target reduction of two to three percent had been set. In order to exploit flexibility reserves and secure full staffing of bottleneck functions, employees must be flexibly deployable. A qualification matrix was therefore created for each individual in the team. This covers the current status, but also the development and training needs.

Only after this foundation had been laid and mutual trust established did they begin to define nine common "Cornerstone Points" for a Works Agreement to be drawn up:

1. Operating hours, including Saturdays, between 60 and 96 hours in two shifts.
- "In order to exploit flexibility reserves and to secure bottleneck functions, employees must be flexible in their deployment."
2. Annual Time Accounts are created that cover a 12-month period, but not necessarily the calendar year.
3. A standby pool of employees who can be called up at short notice is intended to help reducing machine downtime.
4. An intervention limit of plus/minus 80 hours is set for the time accounts. If the individual time account remains within this limit individuals and teams largely retain in sovereign control over their time. If it moves outside of this limit, measures may be determined, if need be, unilaterally by plant management

"The works agreement on flexible working hours includes a waiver of employer-initiated redundancies of permanent employees for the remaining eight months of the calendar year—an important psychological signal."

If the time accounts of all employees are approaching the intervention limits, this serves as a warning for personnel planning and the Human Resource Function.

5. The works council wants a declaration of intent to be included in the works agreement, about employee training and qualification.
6. A statement on job security is to be made, although it remains unclear at this stage what form this will take in detail.
7. In order to enable personnel deployment through self-management of the work groups, individual working time accounts are to be open in public, taking data protection into account.
8. In order to ease the burden of negotiations and in the interest of a "lean" works agreement, the parties to the agreement commit to make corrections during the term of the agreement.
9. The economic success achieved through flexibilization shall be made transparent to employees.

After two months of further negotiations, the works Agreement on Flexible Working Time was finally ready. It contains a waiver of employer initiated dismissal for organizational, economic and operational grounds for the remaining 8 months of the calendar year – an important psychological signal. This signal confirms that the company takes the new model seriously and can therefore demand the same from its employees -

– an argument that ultimately also convinced Corporate Management in US headquarters.

Clear rules with examples for creating time accounts for vacation, illness, and continued payment of wages during absences are also important for the conclusion.

As important is the seemingly minor issue of communication technology for employees who are on call in the stand-by pool and ready to respond: if a day off intended for family shopping can be canceled at short notice, then this should be done via Cityruf or cell phone rather than by waiting by the fixed line home phone.

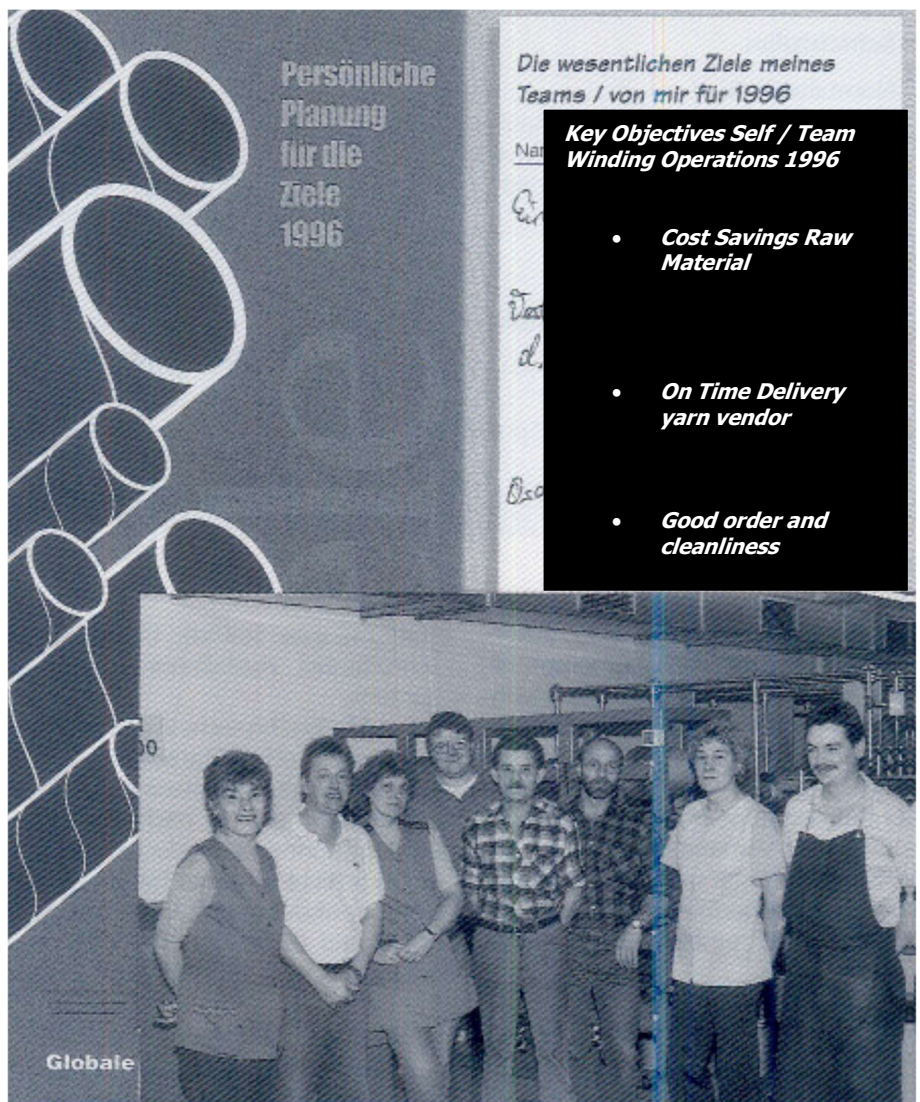
"The basic model, understood as normal operation, continues to provide for the historically established working hours in a two-shift rotation system, to which employees had become accustomed."

After a final exciting phase - the works council wants to discuss the new working time model with all employees in small groups, which is what happens—a works agreement is finally signed after a total of five months of preparation. The event is reported in the company newspaper and in the local daily newspaper.

This is duly acknowledged in the press, so that the family also knows that dad or mom will now be at home for a whole week as part of the shift-rhythm – an idea that is initially unfamiliar, especially for male employees.

The shift model and the Stand-By Pool

The basic model, which is understood as normal operation, continues to provide for the historically established working hours in two-shift alternating shift operation, to which employees had become accustomed: Monday to Wednesday, early and late shifts of 8 hours,



Die wesentlichen Ziele meines Teams / von mir für 1996

Key Objectives Self / Team Winding Operations 1996

- **Cost Savings Raw Material**
- **On Time Delivery yarn vendor**
- **Good order and cleanliness**

7 hours on Thursday mornings and evenings and 6.5 hours on Friday mornings and evenings, totaling the standard working hours of 37.5 hours per week. However, the previously rigid break has been replaced by a break corridor in the interest of filling bottleneck positions.

From this normal operation, management can ramp up, or ramp down, with a notice period of 1 ½ weeks, for the entire plant or for sub-divisions, for example, to full-load operations with nine hours Monday through Friday early and late, as well as an eight-hour early shift on Saturdays. The original request by plant management for a Saturday late shift was given up, as in return the required

"corridor" of up to 96 hours was even exceeded. Conversely, individual shifts can be canceled, resulting in weekly working hours of 29.5 to 31 hours, depending on the choice of the canceled day. Neither ramping up nor ramping down has any effect on the monthly wage, which is paid on the basis of the collectively agreed 37 ½ hour week.

Employee Working time per Week	
Minimum	29.5 Hours
Maximum	53 Hours
Working Time paid as per Collective Agreement	37.5 Hours

Overtime compensation and bonuses are will not be paid out; instead, they are accumulated in the time accounts.

Shift Schedules

Normal Operation

Monday to Wednesday, 8 hours each early and late = 48 Hours
Thursday, 7 hours each early and late = 14 Hours
Friday, 6.5 hours each early and late = 13 Hours
Total Operating Time = 75 Hours per Week

Low Load Operation

Shifts are cancelled
 8 hours on **Monday** and 6.5 hours on **Friday**
Total Operating Time = 60.5 Hours per Week

High Load Operation

Monday to Friday, 9 hours each early and late
Saturday early, 8 hours
Total Operating Time = 98 Hours per Week

in the event of a sharp decline, the question of personnel adjustments will be considered.

The increase or reduction of working hours, does not require additional negotiation with the works council, even if increase or reduction go beyond the framework of the working groups' autonomy over working hours. However, specified information must be submitted to the Works Council in advance on a regular basis (order backlog, output, target/actual quantities, delivery performance, scrap rate, downtime, and time accounts).

Change of operations time

One and a half weeks before the reduction or extension, the plant management announces the change. The works agreement specifies what information is to be presented to the works council.

Every five to six weeks, three to six employees per production area switch to a week off according to the shift schedule.

Depending on their shift assignment, they may be called to work during the first hour of their shift, for example between 6:00 and 7:00 a.m. or between 2:30 and 3:30 p.m.

Every five to six weeks, three to six employees per production area switch to a week off according to the shift schedule. Depending on their shift assignment, they may be called to work during the first hour of the shift."

A full shift is then credited to the time account. Employees with the highest time debts are called upon first. The qualification of the employees is crucial for the functioning of the pool, as it prevents time credits from always accumulating with the same employees.

The annual working time accounts run from June to May of the following year and must be balanced by then. If this is not achieved by self-control of work groups nor by intervention of plant management, credit balances must be paid out.

Due to a simultaneous change in the collective agreement this will normally be done, without overtime premia.

On the other hand time debts are borne by the employer. The intent is to counteract a time consumption culture, avoid the build-up of time credits by switching to less productive activities during periods of lower capacity utilization. For the same reason, if employees leave the company due to termination by either party, their time debt will be waived if it cannot be offset in any other way. In the event of a permanent increase in time accounts, the need for new hires will be examined;

The Annual Working Time Account

The calculated annual working time, including vacation, amounts to 1957.5 hours. The monthly wage is paid regardless of the duration of the work actually performed.

Everyone has a time account in which time credits or debits are recorded that arise from deviations from normal operations.

Employees balance time credits or debits of up to 80 hours themselves within the framework of group work.

The time account should be balanced within one year. If, contrary to expectations, this is not possible, then it will be paid out.

Group work

In the four Focused Factories employees work in groups of 15. The groups know their targets and largely organize their own work schedules and compensatory time off.

Economic results and outlook

In the first six months of its test phase, the flexible working time model has significantly improved delivery capabilities and reduced costs, not only by avoiding overtime and costs of work surcharges, but through improved processes and reduced downtime.

Workplace flexibility

Most employees can work in more than one workplace and also switch between the Focussed Factories. Once they have completed the orders for their own group, they can take time off or switch to another group.

Stand-By Pool

At 4 Focussed Factories, 3 to 6 employees rotate into an on-call shift. However, they must be available by phone during the first hour of a shift and be ready to step in in case of an emergency. The company provides mobile communication technology.

The flexible working time model significantly improved delivery capacity and reduced costs in the first six months of its trial phase, not only by avoiding overtime surcharges, but also through improved processes and reduced downtime.

What the model has achieved so far - Interim results after six months of operation

- On-Time Delivery has been improved significantly.
- Costs by group-internal comparison have become competitive globally.
- Instead of short-time work and layoffs, time credits are used to bridge seasonal fluctuations.
- In addition to securing existing jobs, new jobs have been created too

The establishment of time counts and an on-call pool has led to a reduction in sick leave with its variety of reasons. Above all, it has helped to ensure that a number of temporary employees have been taken on permanently and that six new jobs have been created as a kind of "exchange" for overtime worked by individual employee groups in return for additional employment.

Although less easy to quantify, the signal effect on the workforce and the local community should not be underestimated, nor should the reinforcement of team work in work groups be underestimated. Employees can see for themselves in their group meetings whether the transition to flexible working hours, which is not always easy, has really brought about the desired economic results, and they can initiate improvements themselves.

For company management, time accounts provide an accurate X-ray image of operational activities, bottlenecks, and planning reliability, a kind of early warning system for over- or underutilization and qualification needs. This provides much more meaningful information than conventional financial figures on overtime and sick pay costs.

In addition to the sometimes overestimated importance of collective bargaining agreements, important prerequisites include a corporate culture based on the involvement of all employees, teamwork, and flat hierarchies. For supervisors, a flexible working time model does not mean less precise planning of processes - this is ensured by the requirement to comply with intervention limits on time accounts and the need to compensate at the end of the distribution period. Without a thorough analysis of the processes beforehand, a flexible model is likely to fail.

In international comparison, it helps to align unit labor costs with competing plants with lower wages. -



and longer working hours, with the resulting willingness to invest in the location, which is a significant advantage in terms of employment, especially in international companies.

Finally, for the HR function and its reputation within the company, proven economic success is a great help when it comes to demonstrating the importance of progressive HR systems and their well-thought-out introduction and implementation.

Like with every bottleneck overcome successfully, the flexibilization of working hours points to the next bottleneck, namely goal setting, training and personnel development, especially in the area of production.

Goal Setting in Manufacturing Environment

Example

Dear Team Member,

Hose manufacturing is one of Aeroquip's core competencies. In 1959, we were the first company to integrate hose and fitting manufacturing. Today, we are the global market leader, producing more than 30 million meters of hose every year.

The year 1995 was a milestone for the Aeroquip Global Hose Organization. Our group was formed to highlight the important role that the hose division plays as a supplier to the other Aeroquip groups (industrial, automotive, and aerospace) and to leverage the synergies of our global knowledge.

In 1995, three Global Hose Organization plants qualified for the important "AQ+" award: Forest City, Cardiff, and Mountain Horne. Many initiatives were then launched to achieve the best

Transferring practices from one plant to other plants. We received approval to start up a flexible hose plant in Brazil, and we will continue to invest in our existing plants to increase capacity and modernize equipment. Our continuous focus on quality, cost, and delivery time has led to improvements in these areas, which are important to our customers.

We are a strong team

The Global Hose Organization team of 900 employees is strong and solid. Our challenge is to build on our capabilities and ensure that we are a flawless supplier of hoses to Aeroquip. We should also recognize that the demand for our products makes us one of the biggest potential growth engines for Aeroquip. Emerging markets such as China, Southeast Asia, Eastern Europe, and South America

all have a growing need for our products. It is an exciting time to be part of Global Hose Organization.

What can YOU contribute?

This brochure describes the goals of the Global Hose Organization and the goals for your plant. It also gives you the opportunity to set your personal goals that support our strategy. Everyone on our team has an important role to play in implementing our strategy and achieving our goals.

Whether you are in Cardiff or Norwood, Guaratingueta or Hann. Münden, Mountain Horne or Forest City, I know that you will rise to the challenge ahead. If we all work together, our organization and each of us individually will prosper. We will play a leading role for Aeroquip in the future. It is time to offer our excellent products all over the world.

Thank you for your support! Jake

Hooks

Vice President & Managing Director



Global Hose Organization



Goals for Aeroquip's Global Hose Organization 1996

Manufacturing Excellence

Improve services to our customers through employee commitment by:

- 98% on-time deliveries with a 10% reduction in lead time;
- Reducing conversion costs by \$\$ 1 million;
- Supporting our Total Quality focus by achieving Aeroquip Quality Plus certification.

Organization of materials management

Improving our delivered raw materials by involving suppliers and framework agreements, supported by QOS- Key performance indicators:

- Avoid material price increases:
- Improve supplier quality (to 3000 DPPM) and delivery time (to 10000 LPPM).

DPPM = Defective Parts Per Million
LPPM= Late Parts Per Million

Communication

Improve internal and external communication:

- Develop planning and scheduling systems that involve the customer:
- Introduce Mfg/Pro pilot systems at some locations;
- Recognize employees and teams that deliver results.

Product and process development

Enhancing our development capabilities to meet customer requirements:

- Develop 12 new products and reduce development time to less than one year;
- Introduce four new production processes;
- Draw up a plan to establish a hose factory in the Far East;
- Develop a global purchasing strategy and achieve cost reductions and quality improvements from suppliers.

Measurable targets

Use QOS in all our hose manufacturing plants, resulting in a common framework for managing our business through the following measures:

- Introduce common accounting and QOS metrics;
 - Achieve a QOS rating of at least 35 points.
-

***The main objectives of the
Hann. Münden plant, Germany***

Our efforts are focused on the continuous improvement of our products with the aim of becoming a globally competitive hose supplier.

Quality is an essential element of our competitiveness:

- Achieving continuous improvement in our processes and products;
- Reducing customer complaints to less than 10 per month.

Cost reductions are a prerequisite for our growth:

- Carry out cost reduction projects efficiently and on schedule;
- Utilize all cost reduction opportunities;
- Conversion cost of DM 2.02 per unit produced

QOS is introduced as our problem-solving tool with the aim of achieving continuous improvement:

- Apply QOS methods;
- Advance the process of continuous improvement through teamwork.

Consistent delivery promotes confidence in our products, services, and customer relationships.

- Introduce cyclical order planning;
- Achieve 98% or better delivery

**The main goals of my
team/myself for 1996**

Name: