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OPERATIONAL EXCELLENCE IN JAPAN

World Class – Realising a Dream and Reviving a Plant – The Alternative: Demise

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2009

RD interlogue

Article for Background Reading

Title	World Class – Realising a Dream and Reviving a Plant – The Alternative: Demise
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Published	in IE Review, Vol. 50 No. 2 2009
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English Translation (from German)	Ian Bennett
Version	August 2019

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World Class – Realising a Dream and Reviving a Plant – The Alternative: Demise[1]

Translator's note (Roman Ditzer):
"This article is a rare example of a text written by a top manager looking back and describing his leadership philosophy and approach in a turn-around project. It is also a valuable tool for understanding the managerial role in *kaizen* companies in Japan. Many organisations in Germany and Europe are on the lookout for ways to be more effective in their improvement activities. This text has significance beyond the case described herein. If you are open to the messages, it can be a source of inspiration and understanding."

Short note from the author:
"More than 40 years of *genba* experience can be summarized as follows: No matter how much you train technical content, this alone will not be enough to motivate people [to perform certain services]. [...] The employees at *genba* are all willing and able. The utilisation of their abilities depends one hundred percent on the skills of the managers."

Content

[1] *Translator's note: This article was published under the title『世界一』の“夢”を現実のものに・・・生き残りをかけた工場再生へ in the magazine IE レビュー (IE Review), Vol. 50 No. 2 2009.5, p. 15 – 21.*

Summary and Foreword

As the most senior executive of a production company, a plant manager should perform the following tasks:

- Create an environment conducive to increasing profit, which is also a place worth working in.
- Maintain the livelihood of the workforce.
- Establish a good relationship between the plant and the local community.

A plant is essentially nothing more than a 'box'. Inside this box you will find people swarming and bustling, yet we must keep in mind that these are human beings with emotions. As far as problems in a factory are concerned (and those in society in general), it can be said that there is nothing new under the sun; for the most part, history repeats itself. The **human factor** is always at play here. It may sound woolly and reminiscent of a 'theory of emotions', but real vitality will not grow in a factory unless it is guided in a purposeful direction towards the human beings, paying sufficient attention to the soft factors. I will explain these thoughts below with examples from my own experience.

Introduction

I work for the Japanese subsidiary of the German Robert Bosch GmbH, a group of companies with around 290 production sites and 280 000 employees worldwide.
The Tochigi plant[2] specializes in the manufacture of anti-lock brakes (ABS) and electronic stability systems (ESP).

The German Robert Bosch GmbH is named after the company founder, Robert Bosch (1861 – 1942).
He worked in Germany, Europe, and America, and it is reported that he worked for some time for Thomas Alva Edison on an eight-dollar weekly wage. In 1886, Robert Bosch set up a workshop for precision machines and electrical engineering in Stuttgart. It was more than 100 years ago, at the beginning of the era of Emperor Meiji in Japan, that he introduced innovations in personnel management, such as the eight-hour day, half day working time on Saturdays, as well as the granting of paid vacation based on years of service, etc.

Robert Bosch was convinced of the fact that healthy working conditions lead to healthy, happy employees, and that such employees are 'good workers' for Bosch. Furthermore, he transferred profits to the Bosch Foundation, donated a hospital to the city of Stuttgart for its residents, and supported a large number of charitable projects. This tradition lives on today.

I believe that social commitment to employees and society is much more than just the spirit of the founder of my parent company. Above all, it is something from which I can derive a great deal, with considerable relevance for my work as a manager in a manufacturing company.

Knowledge as the Highest Executive of a Production Company

Career Path

After 20 years' experience in an aluminium foundry and in ABS production, and after 33 years of working in the field of production technology, I was given responsibility to lead the plant.

In the aluminium casting sector, I had automated a casting plant which had a very poor working environment, and in this capacity I developed a fully automatic turntable casting machine. This experience forms the cornerstone of my belief that a manufacturing operation[3] must treat its employees responsibly and with care in order to deliver consistent improvements in quality and productivity.

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[2] *Translator's note: The Tochigi plant is located in the prefecture of the same name, about 150 km north of Tokyo.*

[3] *Translator's note: The author uses the Japanese term monozukuri. This literally means 'making things'. In Japan, many companies (especially lean ones) use this term to convey their self-image as 'manufacturers of things'. This is associated with pride in their own expertise in terms of processes and the efficient use of production technology, as well as the ability to continually improve production through experimentation and creativity (kaizen).*

The symbol of this self-image is the company uniform, which is also worn by factory management (the blue man would be the equivalent in Germany).

Afterwards I was in ABS production, where I was responsible for mechanical processing and the assembly of hydraulic and electronic products. During this time, I was able to acquire knowledge about quality management in series production, as well as specific know-how about workpiece positioning technology and the requisite strength of assembly equipment.

One thing I consistently observed was the **3-Gen principle**[4] – 'Talking is easy, doing is hard'. Sometimes I would not budge for more than ten hours from morning to evening, constantly observing the processes at the *genba*.

A production system consists of material transport and individual activities[5]. These should be harmonised rationally and consistently. It is also important to 'incorporate quality into the process[6]. I learned a lot about industrial engineering, as well as methods such as **RWF** (Ready Work Factor) [7] and statistical quality control.

While ABS production continued to increase throughout this period, the 'bursting of the bubble'[8] led to a surprising merger with another company. Consequently, there were some repeated issues, such as consolidation and site closures. In the 1990s, as head of production (general manager), I was in charge of relocations and closures. It was a bitter experience where I acted contrary to my own philosophy of treating employees considerately and with care; many of them had to leave the company. Questions about management were raised: What is the nature of a factory that survives the course of time? What is the target state I personally strive for in my plant?

Determining the Actual State[9]

I was appointed plant manager at the Tochigi plant in May 2002. At that time, the 'IT bubble' [dot-com speculation bubble] had just burst. Japanese stock prices were at their lowest since the end of the [previous] bubble, and plant closures and mergers were being carried out everywhere. This fate was also considered for the Tochigi plant, but in the end I was tasked with saving it.

This was not possible via performance alone. Its only chance of survival was to become a plant with a distinctive feature within the Group. The reality, however, was that the machines and floors in the mechanical processing department were covered with chippings and oil.

Everything was sticky, oil mist hung in the air, and this hazy atmosphere was considered natural. The employees worked in this environment, their work clothing covered in oil, and their attitude was "It's just how it is in mechanical processing" and "That's how it is and it can't be changed". I had to do something about that. It was a struggle for the survival of the factory.

This attitude and the associated know-how are regarded as a core competence of Japan – and one of the few remaining advantages in global competition. In the above paragraph, 'manufacturing' also refers to background factors such as management, leadership and organisation.

4 *Translator's note: The 3-Gen principle is a collective label for the three terms genba (or genchi 'actual place', 'place of action'), genbutsu ('actual object') and genjitsu ('fact, reality'). The principle involves forming one's own impression when dealing with problems and making improvements. The author himself explains the principle in a lecture as follows:*

Genba – going to the shop floor,

Genbutsu – seeing the actual goods,

Genjitsu – checking the real situation.

A free translation for the 3-Gen principle is 'See for yourself, at the place of action with the part in your hand', the English version 'Go, look and see' is also widely used.

5 *Translator's note: By individual activities we mean the individual motion elements which comprise the worker's activities, such as 'extending the arm', 'gripping the workpiece', and 'moving from A to B'. In order to improve employee processes, one has to incorporate an analysis of these elements (from the author's explanation of the text).*

6 *'Integrating quality into the process' is an approach from the Toyota Production System. It ensures that only good parts are passed on to the next process step. This is achieved by carrying out internal process quality controls and by triggering a deviation alarm (jidoka).*

7 *Translator's note: Ready Work Factor corresponds to the MTM methodology in Japan. The author notes: For time analysis, RWF was the most prevalent methodology in Japan, but it is now rarely used in kaizen activities (from the author's explanation of the text). This indicates a major difference: Time modules (RWF, MTM) are only used within the framework of planning the facility. The kaizen approach is more pragmatic, using a stopwatch and video analysis if necessary.*

8 *Translator's note: A period of economic boom came to an abrupt end in Japan at the end of the 1980s. The stock market bubble burst in 1989, with the real estate bubble following suit in 1991, as the prices on the stock market turned out to be inflated. The Japanese economy has been caught in a mixture of stagnation and deflation ever since. This prolonged situation is often referred to as the 'lost decades' or the 'Japanese disease'.*

9 *Translator's note: The 'determining of the actual state', i.e. the problem analysis, is one of the first steps in the systematic approach of the kaizen methodology. The author alludes to this approach here.*

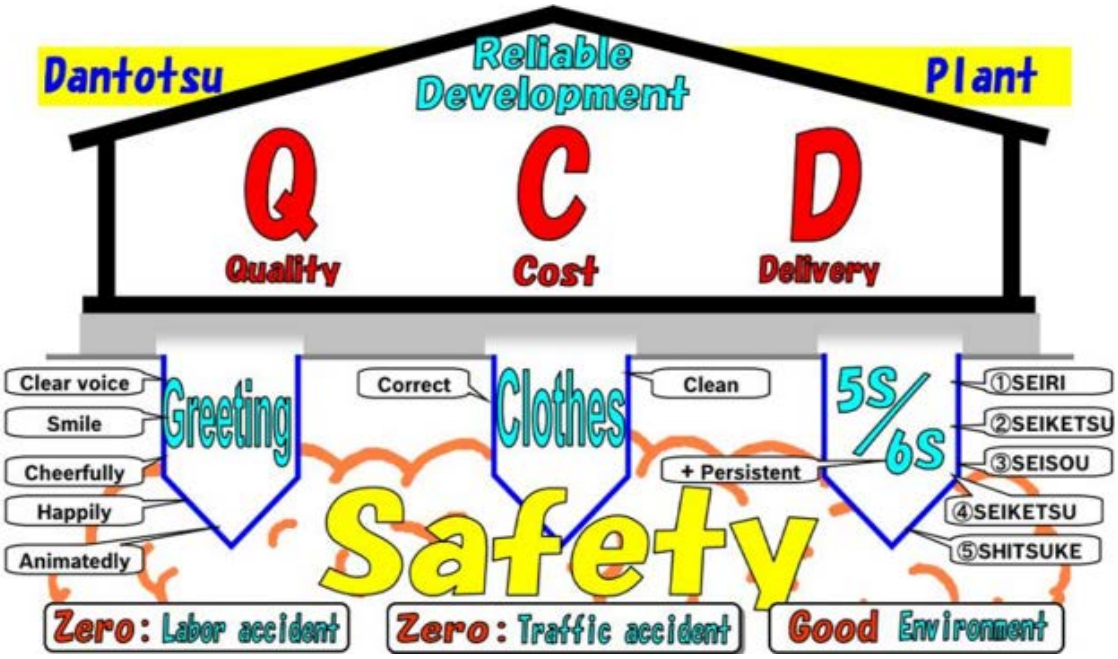

FIGURE 1: THE FOUNDATION OF QUALITY, COST AND DELIVERY EXCELLENCE

The Dream of Becoming the Best Plant in the World

What is the primary objective for the manager of a production plant? Is it really to make the plant 'profitable' under any and all circumstances? I believed that the most important task was to first create working conditions where every employee could enjoy a feeling of happiness and satisfaction with what they had accomplished. This required the creation of the 'world's best plant' with superior performance in terms of quality, cost and delivery (QCD). I boldly proclaimed to the workforce, "Let's be the best factory in the world!" But the employees' reaction was somewhat cool: "What's the new plant manager screaming about?"

I was at a loss and didn't quite know where to start. But, as the plant manager, I couldn't simply give up; that would have meant the demise of the plant. I thought about my previous experiences and what I might be able to do based on my own beliefs: my 'lifelong production experience', the 3-Gen principle, and [my approach: 'With *kaizen*] always ebulliently bouncing!'.[10] I went to the shop floor – where else? – and stared at the equipment and the employees. It soon became clear to me that there was a lot of distance between myself and the employees. Originally, I was not the sort of person whose subordinates would warm too quickly. In fact, any reasonable person would probably stay well clear of such a plant manager, hanging around the shop floor with his worried expression. A reform would only be possible if I stopped trying to change the others and instead first changed myself!

I began by purposely addressing each individual personally with a "Good morning" or "Thank you for your effort".

Guiding Principles for Realising the Dream

Many companies have something like a 'company mission' or company principles, but I came up with the following three guiding principles. As the Tochigi plant's principles, these should be easily understandable and readily accepted, and I directed my appeal to every single employee:

[10] *Translator's note: The author himself explains these terms as follows: "By 'lifelong production experience' I mean that after my training I started working at the age of 20 and was immediately employed in production (on the genba). Since then I have held a number of different positions, but all of them have been in manufacturing plants = genba."*

"By 'ebulliently bouncing' I mean that whenever I worked on genba, I had only one thing in mind: the improvement of the respective production area in front of me. I just rushed forward like a wild boar, without looking to the right or left". (from an explanation of the text by the author)

1. "Let's greet each other loudly and clearly!"
2. "Let's be properly dressed!"
3. "Let's hone our senses for 5S / 6S!"

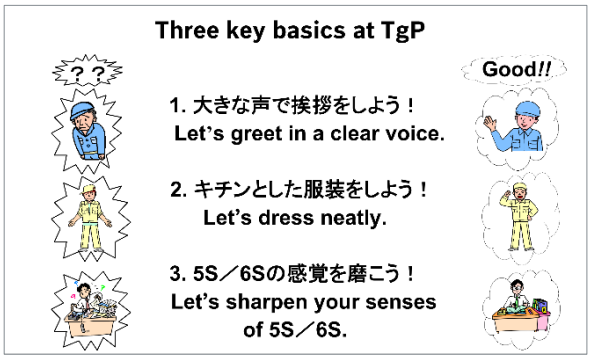

FIGURE 2: THE 3 GUIDING PRINCIPLES OF THE TOCHIGI PLANT

The 5S are: 1) eliminating unnecessary items, 2) storing each item in the right place, 3) cleaning the workplace, 4) keeping it clean, and 5) practicing all this in a disciplined manner. I supplemented this with a 6th [Japanese] S: "with extreme consistency"[11].

When I walked around the factory, I kept telling everyone I met, "Let's say hello to each other", "Let's clean up". I also got down on my hands and knees in front of the staff and cleaned the floor. People slowly began returning my greetings, and the faces began to gradually brighten. Meanwhile, the plant had become cleaner than anyone previously imagined possible.

Laying the Foundation – Building up the Staff[12]

The first step towards creating a plant with outstanding and stable QCD performance is to build a solid foundation. The foundation of a plant is first and foremost occupational safety. A plant that produces outstanding quality, but occasionally requires an ambulance, is disqualified. The bedrock for a plant should be the pursuit of the targets of **zero accidents at work** and **zero traffic accidents**, as well as the creation of a pleasant working environment.

The three pillars can be firmly anchored in this bedrock – the 'Greetings', 'Proper Clothing' and the 'Sense of 5S / 6S', which in turn represent a distinct state of mind. Only a plant that is supported by such a solid foundation can meet the requirements for sustainable QCD improvement activities.

I deferred the QCD improvement activities, and instead gave priority to building the foundation. This took two to three years.

On Managers

What are the Demands that can be Placed on a Manager?

I believe that a manager should generally have the following qualities:

1. Ambitious goals
2. Understanding of human nature
3. Sensitivity to change and transformation
4. Presence, impact on others (charisma)

If you go through Japanese history and look for the greatest figures who have led the country, you will find Oda Nobunaga, Toyotomi Hideyoshi and Tokugawa Ieyasu.[13] What these three people have in common is that they had a great dream and the will to conceive and achieve on an vast scale. To realise this dream, they came up with short and medium

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[11] *Translator's note: There are a set of English terms for the 5S of kaizen, which also begin with the letter s: 1) Sort, 2) Set in Order, 3) Shine, 4) Standardise, 5) Sustain*

[12] *Translator's note: In the title of this section, the author alludes to a double concept that is often mentioned in connection with monozukuri (the 'making of things'). This is called 'monozukuri – hitozukuri' (物づくり・人づくり) and expresses the context: 'You can only build things if you can build people up for them'. Toyota has translated the same idea into English as follows: 'We don't build cars, we build people.' and 'Since it is people who manufacture things, manufacturing is impossible unless people are developed.' (Source: Taken from the exhibition rooms of the 'Toyota Pavilion' at the company headquarters in 2011)*

[13] *Translator's note: Oda Nobunaga, Toyotomi Hideyoshi and Tokugawa Ieyasu were prominent figures in the 16th century unification phase of the empire. After over a century of civil wars, they triumphed and were able to conquer all other princes and rulers. A poem describes the three men as follows:*

"What should you do if the bird does not want to sing?"

Nobunaga answers: "Kill it!"

Hideyoshi answers: "Stimulate its desire to sing."

Ieyasu answers: "Just wait."

In a well-known adage, the achievements of the three military strategists are compared to the making of mochi (rice cake): Nobunaga beats the rice to pulp, Hideyoshi flips it over, Ieyasu eats it up (Source: de.wikipedia.org/wiki/Tokugawa_Ieyasu).

Tokugawa Ieyasu was the one who finally prevailed and was consequently the first ruler of the Tokugawa clan and the one who initiated the Tokugawa epoch. This lasted from 1600 to 1867, bringing peace, a highly developed bureaucracy, an aspiring bourgeoisie, and much more.

term plans and strategies for unifying the empire, which they implemented assiduously and resolutely. They are also known for their excellent understanding of human nature, which is why their servants were loyal.

As a simple plant manager, I had to develop myself in many ways: I needed a 'vision of how the plant should evolve' so that I could engage and inspire this group of people. I needed to 'find believers who shared this vision'. I also needed 'the will to forge ahead, the skill to convince theoretically, the power to change myself, and, ultimately, a generosity of spirit that transcended all the bland theory'.

The Role of Managers

Next, some thoughts on the role of managers: There are many publications on the subject of leadership. One that was a real eye-opener for me fell into my hands in a bookstore:

> *"People are not motivated to act by commands; rather, a leader must be a person who 'exemplifies' and thus makes an impression on others."*

> *"One must be a good role model in order to spark awareness in others of genba."*[14]

These observations are largely in keeping with my actual experiences and work in the production plant.

There is another famous quotation in Japan about how to lead:

> *"People only act when you first explain it to them, then show them how, then let them do it themselves, and in the end praise them."*

These words are attributed to Admiral Isoroku Yamamoto, who himself is said to have been influenced in his thinking by Yozan Uesugi.[15]

In light of this quotation, I would like to make some observations on the role of managers. The quote can be divided into four parts:

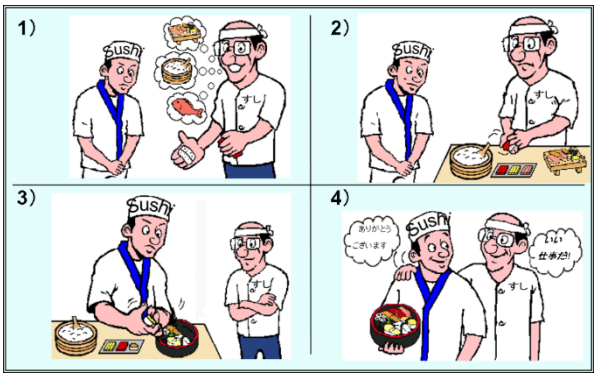

FIGURE 3: ROLES OF A LEADER

1. "... first explain it to them",
2. " then show them how ",
3. " then let them do it themselves "
4. " and in the end praise them." (Figure 3)

If one considers who performs these tasks, 1, 2 and 4 are carried out by the trainer, while 3 is done by the trainee. This means that the lion's share must be done by the trainer (leader). Only if this is fulfilled will workers feel motivated to perform.

To reiterate: A manager demonstrates an action to others, thereby motivating them to act accordingly. The manager should also be interested in the result of the action and provide feedback. Afterwards, further orientation will be given. I believe that this is a crucial role [in an organization].

On Production Managers

For production managers, the following points are important:

1. Sensitivity and Understanding for Others

Two-way communication creates a good relationship with your staff. It begins with how you greet each other; by exchanging a few quick words and simple conversation, you can gradually reduce the distance between people. As a manager, it is a question of

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[14] ***IWAO NAKATANI*** *愚直に実行せよ (Make it unmistakably simple!), published by PHP Kenkyusho, 2006.*

[15] *Translator's note: Isoroku Yamamoto (1884-1943) was Admiral of the Japanese Imperial Navy in World War II. He planned and led the air raid against Pearl Harbor on 7 December 1941. Yozan Uesugi (1751-1822) was a prince in the Edo period (or Tokugawa period 1600-1867) and regarded as a 'wise ruler'. This made him an outstanding leader of his epoch.*

building a collegial relationship with as many employees as possible, and ensuring that they are open to your particular ideas.

2. Sensitivity to Anomalies in the Plant

In the production area, managers must pay close attention to the small changes in the equipment, e. g. mechanics, noises, colours, smells, and leakages. To hone this awareness, it is essential to regularly spend time at the *genba*, gaining detailed insight into 'who or what does what for what purpose'. In some cases, managers require knowledge that goes beyond that of the persons directly involved.

3. Sense of 5S

A manager should develop a perception that spots the tiniest blemishes or individual swarf on the floor, even if they are only 1 or 2 millimetres thick. From this heightened sense, a sensitivity for quality can evolve. My rule is to have the head of department or the person in charge contact me immediately via mobile phone if there is a breach of 5S. Just like when there is a problem with a machine, the situation is examined together on site in order to carry out on the spot improvements.

4. Impact on Others (Charisma)

The objective here is to make one thing clear to the employees: "I really mean it!" Just as it is important to consciously strive for good personal relationships, it is sometimes necessary to subdue someone and thereby achieve approval. Other times you have to act as an arrogant dogmatist. This may seem like a cautionary example, but it ultimately leads to people becoming engaged [not for an idea or a thing, but] for the sake of a particular person. Ultimately, it is the attitude of the leader that makes the workers feel that they themselves are responsible for their own equipment: "I do it myself, so you do it too, please!

On Shop Floor Management in Reality

There are no Magic Tricks for Maintaining and Improving Quality

There are a number of tools for quality management, and we use several of these in our factory, according to requirements. However, we should bear in mind that these tools are actually used by human beings, and so we need to encourage the employees to use them. I therefore conclude that the most important task of a plant manager is to foster the necessary attitude and motivation among the people who work with these tools.

We also have the following saying in our factory: 'There are no magic tricks for maintaining and improving quality; just the daily and constant improvement measures!' This conviction has become the lynchpin of our quality management operations.

If a customer complains about a processing error, the problem won't be solved by blaming the employee. It's very easy to ascribe the mistake of the employee to 'human error'. However, errors are often made at the higher echelons and therefore due to 'management failure', i. e. when the working environment, working method and the sequence of work steps are not properly regulated, resulting in errors. Were there any problems in the working environment? Have workers really focused their attention on a problem? Have the working methods and the procedures been rigorously trained?

If improvement activities are to be successful, it is essential to create an environment where problems are tackled jointly with employees and where communication is open and direct. On the other hand, while many don't want to admit the connection to quality improvement, it is important that managers rigorously implement the three slogans from the section 'Guiding Principles for Realising the Dream'.[16]

[16] *Translator's note: The author outlines the importance of a specific corporate culture for the success of improvement activities. He describes the rudiments of this culture in various passages in the text: It starts with dealing constructively with problems (instead of allocating blame). It also includes working together to think about solutions when employees highlight a problem (involvement). It also means that managers take on the role of a coach for the improvement activities (3 of 4 actions). With the 3 slogans, being a role model, and through other measures, the plant manager progressively changed the corporate culture at the Tochigi plant into a culture of improvement.*

I would like to outline a measure designed to improve communication so that staff feel at ease and confident in their work. A morning exercise ['morning roll call'] immediately after arriving at work is quite normal [in Japanese companies]. But how can we judge the practice of giving employees all the information from the particular department or previous shift, including **change points** and general notifications – in short, a great deal of information?

Important information [often] gets lost in the information overload. We solve this by using such instruments as the **staff deployment overview** (photo 1) and the **change point table** (photo 2).[17]

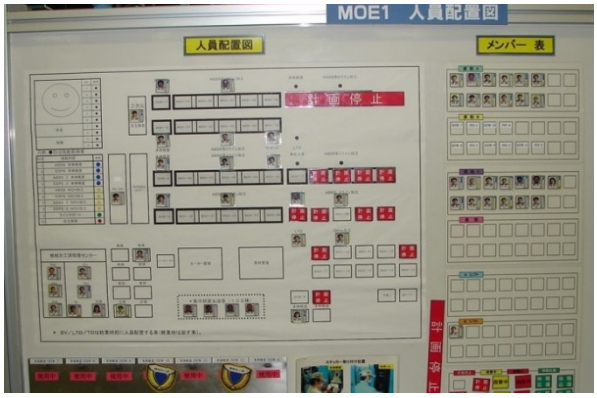

PHOTO 1: STAFF DEPLOYMENT OVERVIEW

PHOTO 2: CHANGE POINT TABLE

In this way, we ensure that everyone can quickly check where they are working [today] at the start of their shift, and also see precisely what happened in the previous shift. In the morning round, we only address matters that affect everyone. As a result, it is soon over and the focus is maintained.

The supervisors also make a weekly check with all employees to verify that the standardized work processes have been mastered and are being observed.

In addition, we have introduced **self-checks** in the internal quality controls to ensure that the level of rigour is maintained during repetitive tasks. These **self-checks** are carried out autonomously by each worker involved (photo 3).[18]

Measures such as these enable the staff to perform their work in a calm and assured manner [knowing all required information and mastering their processes safely].

PHOTO 3: SELF-CHECK WITH TEST GAUGE, TRAINING-WORKBENCH IN THE QUALITY CONTROL AREA

On Improvement Measures

For manufacturing in our company, we use the pull control system via the downstream process.[19]

In order to continuously monitor the manufacturing process, we hold *point CIP activity* meetings every morning with the relevant managers (Photo 4).[20]

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[17] *Translator's note: In the overview of staff deployments, the workers are visualised with photo magnet stickers in their respective lines. Change point boards are a widely used instrument in Japanese shop floor management. Things that need to be changed and that affect the corresponding area are announced in advance, enabling staff to adapt to them and, if necessary, take suitable measures. The change point tables, for example, can be structured according to the 4Ms: Man, Machine, Material and Milieu (Environment).*

[18] *Translator's note: The **self-checks** are a kind of sensitivity training, where boundary sample models are used to check whether the employees can reliably detect quality deviations by means of the test gauges. There is a dedicated area in the production facility for this "employee self-calibration". The boundary sample models are replaced weekly by the quality assurance department.*

[19] *Translator's note: This is a rewording of the Toyota Production System (TPS) or a Lean Production System. At Bosch, this production system is called BPS – Bosch Production System.*

[20] *Translator's note: CIP stands for 'Continuous Improvement Process'. The equivalent in English to 'Point CIP Activity' would be 'CIP activities to the point'. The content and method of the brief on-site meeting (as described*

PHOTO 4: *POINT CIP ACTIVITY* MEETING

The senior production managers participate in this process. Everyone is provided with information on quality (Q), costs (C), delivery times (D) and problems. Responsibilities and schedules for countermeasures are agreed upon at these 20-minute meetings on site – at the *genba*.

We are continuing our efforts to [actively] highlight the shortcomings in our own working environment. There is a special form for suggesting improvements, but it is also possible to make an informal written note about any problems. We classify them according to their root causes and make them generally available. To this end, we have created the 'Transparency Board for Shortcomings in our Department' (photo 5).

Regardless of whether we are dealing with complaints or other comments, the most important thing here is to make a sincere effort [as a manager] to improve the items on the list.

PHOTO 5: TRANSPARENCY BOARD FOR SHORTCOMINGS IN OUR DEPARTMENT'

Raising Motivation

Expressions such as 'self-renewal' and 'management failure' used to point a little self-tormentingly to the management side. But I don't believe that you can achieve high motivation among your employees solely by using 'carrots'.

Once an appropriate working environment has been created, the staff should be challenged with a 'high bar'. We have been holding a ***Kaizen* Activity Presentation** at our plant every month since we started operations in April 1990. There have been around 230 events since then, with about five *kaizen* activities – *soft* and *hard*[21] – presented each time.

They are presented by the employees. In the beginning, having to present in front of an audience feels more like being on the receiving end of 'the stick' – even if the employee is reporting on a success. However, the invigorating feeling that comes when one has survived a lively Q&A session is very important when it comes to increasing motivation.

As stated at the outset, Bosch is a global company. Every year, a number of employees are transferred from the plant to work abroad for two to three years. Ordinary employees are also selected to participate in [international] manufacturing workshops, which

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here) illustrate what is known as shop floor management (SFM) in a lean context. However, the plant's approach goes beyond what is normally operated as SFM: There is an active attempt to encourage employees to highlight shortcomings – latent problems, worries and more – before they become a problem.

[21] *Translator's note: The term soft and hard implies that the improvements can relate both to machines or fixtures as well as to the organisation of work; it also means that the activities involve both the production and the administrative areas.*

The improvement activities described here relate to the Quality Circles (QC, independent improvement activities in small groups). In Japanese lean companies, it is customary for every employee to belong to such a small group and for them to convene once a week for around two hours to work on an improvement issue (during paid working time). They can be supported by specialist departments or their line managers, as required. The aim is to qualify the employees methodically (problem-solving competence) and to gain practical experience in the kaizen procedure. A cost-saving effect is not unwanted, but it is of secondary importance. Over time, the steps in the improvement process will be internalised, and methods and behaviour patterns (corporate culture) that promote improvement will be anchored as behavioural patterns through repetition. (The kaizen author Mike Rother calls this 'kata'.)

are held several times a year. The 'stick' of having to speak English on these occasions also has a positive knock-on effect on overall motivation.

The reason for joining a company is the need for a fixed income. According to Maslow, humans strive for higher-level needs.[22]

I am firmly of the opinion that a key role for managers is to guide their staff to the realisation that the answer to the question 'What are we actually working for?' is: for our own happiness or the happiness of our family.

Vector Alignment

At our plant, we have a **meeting** in the canteen with the entire workforce at the **beginning of each month**.[23]

The way I hold this meeting is to show a number of slides, sharing my thoughts as plant manager directly with the participants in 30 to 40 minutes. If we have a lot to work on, then there may be a few plaintif voices saying that the time is precious. But I believe that giving everyone access to the same information at the same time outweighs the loss of time (photo 6).

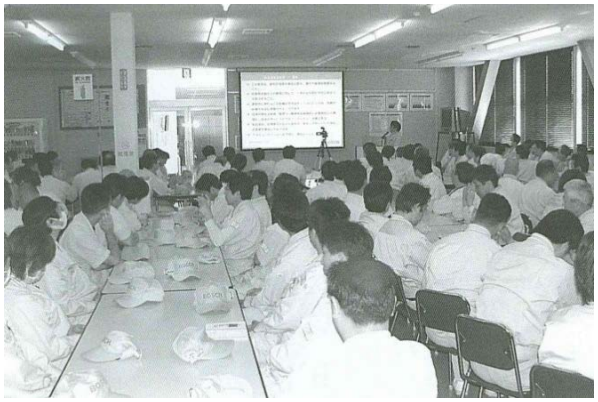

PHOTO 6: BEGINNING-OF-MONTH MEETING

Needless to say, we also have the **Policy Deployment (*hoshin kanri*)** instrument, and targets are defined for each individual, based on overall targets.[24]

Irrespective of that, however, addressing information directly to employees is a highly effective way of achieving equal vector alignment. The start of the meeting is a canon of "Good day", "Good morning", "Welcome" for all present. Another option for regular communication is that managers meet every day after lunch for 15 to 30 minutes to share information about production, quality, external visitors, etc, and to communicate this information within their departments. This is an effective way to improve flow between departments. I am certain that there is a link between these practices and the comments and impressions we have received from customers, such as "It's just like a big family here!"

Future-oriented Development of the Company's Staff

Our Desired State

There is an interesting anecdote related to the desired state, i. e. the vision that I would like to present here. Nakatani reported from the press conference held to mark the appointment of Louis Garthner as IBM's new CEO[25]. The journalists were very excited to hear about the vision of the new IBM CEO, given that his company at that time [1993] was on the verge of insolvency. However, his comment was: "The **last thing** IBM needs right now is a vision". This should be understood as follows:

1. You cannot revive a company by simply deciding on and announcing a [new] vision and strategy.
2. What is actually needed is the 'relentless implementation' of [an existing] vision and strategy.
3. Top management must persist with their 'insistent *genba* presence', exerting influence until the corporate culture actually changes.
4. The 'power of implementation' is of critical importance.
5. Garthner did not say that a vision is unnecessary, but rather that once a vision is adopted, it must be 'rigorously' implemented to the end.

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[22] *Translator's note: In 1943, the American psychologist Abraham Maslow developed a hierarchy of human needs with the following sequence: physical needs – security – social needs – individual needs – self-realization.*

[23] *Translator's note: At the time the author wrote this article, approximately 400 employees were working at the Tochigi plant.*

[24] *Translator's note: Policy Deployment (hoshin kanri) refers to the system of target cascading by the organization. Lean companies in Japan typically break down the global targets for the development of the company or division to the specific and detailed level of teams or individual employees.*

[25] ***IWAO NAKATANI** 愚直に実行せよ (Make it unmistakably simple!), published by PHP Kenkyusho, 2006.*

This hits the nail on the head: It often seems as if factories are full of visions. The vision of the CEO, the vision of the group board, the vision of the plant manager ... old visions and new visions. These factories are 'pickled in visions' like a gherkin in vinegar. By contrast, I am of the fundamental opinion that if you want to unite a large number of people without any particular similarities into one community, then you should do so in the spirit of 'simple is best'.

The employees don't come to the company or the plant with the intention of carrying out improvement activities. But, as managers, it is our task to engage these very employees in such improvement activities. So we need to adjust the alignment of our vectors with messages that truly get through to them. In the section 'Guiding Principles for Realising the Dream' I mentioned three very simple points. My experience is that if we can implement these points consistently and resolutely, we will accomplish a very high level of quality in our work, even without the use of sophisticated QCD improvement tools.

Development of our own Staff

When it comes to acquiring competence as a manager, there is one type of shortcut. This consists of reading more than just technical or reference books directly related to production, but rather, incorporating a variety of works – from philosophy, literature and history. By following in the footsteps of past generations, you will gain valuable insights and hone your **sensitivity** – an important factor in QCD improvement. That's why I encourage young employees: Invest in yourself! Go to a bookshop once a month, peruse all manner of books for an hour, then buy some and go home and read them."

I often take a look at the documentation of the *kaizen* activities [on the boards at the *genba*] and I participate in the corresponding presentations. Frequently I come across meter-long sheets of packing paper on which the *kaizen* procedure and method is presented in detail and with a plethora of information. The person who has been involved in this particular task will certainly be proud of the presentation itself. The ultimate goal, however, is to transfer the things on paper to the *genba*. From this perspective, these presentations are 'far too complicated' for the *genba* staff.

Managers are required to express their own thoughts in accordance with the 'simple is best' approach, and to produce documents that the workers can actually understand. If addressed effectively, workers with a sophisticated grasp and the ability to think for themselves can develop into powerful supporters of the kaizen process and become catalysts for reform. Competent workers automatically engage in the next tasks, which is the reward for successful work. It is crucial to maintain the attitude 'In your free time, as you work, and work as if it were your free time'. When people come together with enthusiasm for a topic and a shared mentality, their abilities are enhanced.[26]

[26] *Translator's note: In Japanese, there is a saying: "This is like giving an iron rod to a monster." This expression means: 'make a strong man even stronger'.*

In Closing

Over 100 groups of customers, companies from our own group and from around the region come to visit our plant every year. These visitors regularly praise us with such comments as: "What a pleasant atmosphere! Every employee has welcomed us here in such a friendly manner". Or: "I've never seen such clean mechanical processing before".

In terms of quality, we have achieved a scrap rate of zero for continuous processing of 200 000 pieces.[27]

One customer described the state that we had achieved in this way: "I have seen over 1 000 plants around the world. This one is among the top five." Even if it's somewhat flattering, it inspires me to strive for an even better plant and to continue the *kaizen* activities on our way to becoming the best plant in the world.

MASAAKI MATSUO

Short Résumé:
Joined Nippon Air Brake in 1969; transferred to Nippon ABS (later: Bosch) in 1989 as part of a new project; after positions in production and planning, became plant manager at the Tochigi plant in 2002 until retirement in April 2012.

Literature Tip to Complement the Article

It is fascinating to see how the same concepts are formulated in a different language by two Swedish researchers who have been focussing on Lean for a long time (here under the umbrella term of Total Quality Management, TQM). A brief taster[28]: (Emphasis added)

"TQM is a **corporate culture** described by increased customer satisfaction through continuous improvements, in which all employees actively participate." (p. 273)

"The following good question may now be asked: which is the best roadmap[29] to follow if a company wants to achieve world-class quality?
Our answer to this question is very simple. These alternative roadmaps are very dangerous to adopt without the right company culture. [...] These roadmaps may be good roadmaps to follow **if the right company culture** has been established form the top management level to middle management and to the shop floor level. This is **not a 'quick fix'**." (p. 272)

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[27] *Translator's note: 200 000 pieces roughly corresponds to the monthly plant production for ABS and EPS units. The plant was able to achieve its absolute target of 'zero scrap' in individual months. This scrap rate of zero is the process-internal scrapping during mechanical processing – not the scrap that is generated during assembly as a downstream production stage or at the customer's site. As a result, the plant can actually claim to be one of the best in the world.*

[28] *All quotations from:* ***DAHLGAARD, JENS J. / DAHLGAARD-PARK, SU MI:*** *Lean Production, Six Sigma Quality, TQM and Company Culture. In: The TQM Magazine, Vol. 18 No. 2, 2006, p. 263 – 281 (can be ordered here: emeraldinsight.com/doi/pdfplus/10.1108/09544780610659998)*

[29] *In their article, the authors consider and compare Lean Production and Six Sigma as alternative 'roadmaps' to achieve 'organizational excellence' or 'world-class quality'. They regard TQM as the overarching management concept, while Lean Production and Six Sigma are expressions thereof: "It has been shown that the lean production philosophy and the six sigma steps are essentially the same, and both have developed from the same root – the Japanese TQM practices (companywide quality control)." (page 279)*

"Besides being a corporate culture we also emphasized above that TQM is also a **management philosophy**. The aim of this management philosophy is to **change corporate cultures** from a passive and defensive corporate culture to a pro-active and open culture where the basic TQM principles increased customer satisfaction, continuous improvement and everybody's participation are applied everywhere in the organization. To have success with such a change process the fourth TQM principle – **leadership**[30] – must also be applied. This is exactly the same pre-condition for having success with the five principles of lean production[31] and / or the six sigma improvement processes." (p. 273)

"To have success with TQM, six sigma and lean production requires a company culture where everybody is proactively working in reducing waste and in helping each partner (internal and / or external partners). Everybody understands that his / her contribution is essential for the team in which he / she is a member and for the customer. [...] The success of the system depends on **everybody's participation**. [...] This requires **leadership for organizational excellence!**" (p. 274)

"The pre-condition for building an excellent enterprise is **empowerment**." (p. 274)

"We believe that a **pre-condition for achieving organizational excellence** defined as 'the 4P' in section 2 (people, partnership, processes and products) is to **satisfy people's needs** in a balanced way." (p. 277)

"We also conclude that especially with lean production and six sigma quality there seems to be **too much focus on** training people in **tools and techniques** and at the same time **too little focus on** understanding **the human factor**, i.e. how to build the right corporate culture." (p. 263)

"[...] it is important to remember that the so-called **Toyota Production System** was not a traditional quality assurance system as, e.g. an ISO9000-based quality system. It was first of all **a human-based system** where people were involved with continuous improvements, and the **foundation for the system** was **leadership** and **empowerment** through **education** and **training**." (p. 266)

[30] *The authors refer to the following four TQM principles: (1) increased customer satisfaction, (2) continuous improvement, (3) everybody's participation, (4) leadership.*

[31] *According to Womack and Jones, the five principles of lean production are: (1) specify value by specific product (2) identify the value stream for each product (3) make the value flow without interruptions (4) let the customer pull value from the producer (5) pursue perfection (**WOMACK, J.P. / JONES, D.T.**: Lean Thinking – Banish Waste and Create Wealth in Your Corporation, 1996)*