

RICOH Way *Production System*

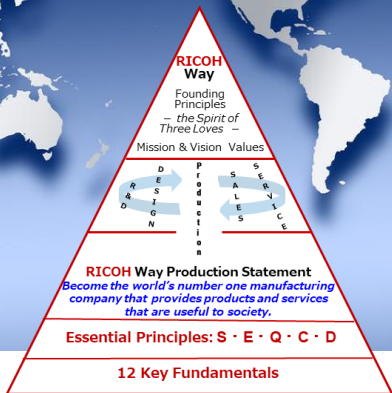


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Introduction

What is RICOH Way Production System?

- It's a summary of the ideas and methods that we at the Ricoh Family Group (RFG*) want to value through our production activities, to ensure excellence in manufacturing.
- The guidebook focuses on the 12 Key Fundamentals of the RICOH Way Production System (RWP), explaining what they are and why they are important in an easy-to-understand manner, with examples of methods, tools, and systems that we use.

Background of the RICOH Way Production System

- There was variation between RFG factories in their approach to achieving SEQCD excellence.
- The RWP guidebook was first produced in 2013, aiming to achieve consistency in our production systems, regardless of place of work or people, with no variation in our basic thinking and behaviors.

Why do we need this guidebook?

- To focus all employees on practicing RWP every day.
- To ensure all RFG production employees act in accordance with the 12 Key Fundamentals (KF) and enhance their expertise, regardless of organizational role or direct or indirect work.
- To transform RFG production as if it were a single production plant.

* * * shows that there is an explanation at the end of the book.

Corporate Philosophy: "RICOH WAY"

Our corporate philosophy the "Ricoh Way" is a representation of what we value and where we are headed. Divided into "Founding Principles," "Mission and Vision," and "Values," it is what every Ricoh Group employee must be conscious of and put in practice.



Our Mission and Vision indicate what we do and what we want to achieve in the future. By understanding and transforming the way people "work", we will support the unleashing of creativity unique to people, creating Fulfillment through Work (FtW) and a sustainable future society.

Our Values are principles that every Ricoh Group employee must hold in high regard, to guide their everyday decisions and actions.

CUSTOMER-CENTRIC

Act from the customer's perspective

PASSION

Approach everything positively and purposefully

GEMBA

Learn and improve from the facts

INNOVATION

Break with the status quo to create value without limits

TEAMWORK

Respect all stakeholders and co-create value

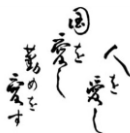
WINNING SPIRIT

Succeed by embracing challenges through courage and agility

ETHICS AND INTEGRITY

Act with honesty and accountability

Our Founding Principles of "The Spirit of Three Loves" is the philosophy that forms the foundation of our "Mission and Vision" and "Values." It is the starting point for all RFG employees to manage and work.



Mission & Vision: “Fulfillment through Work”

Fulfillment through Work is a message that indicates the direction we should take in order for all employees to work together as one and continue to provide value as we approach 2036, when we will celebrate our 100th anniversary.

Fulfillment can be defined as a feeling gained from achievement and self-development that comes from overcoming challenges. RICOH helps workers gain Fulfillment through Work.

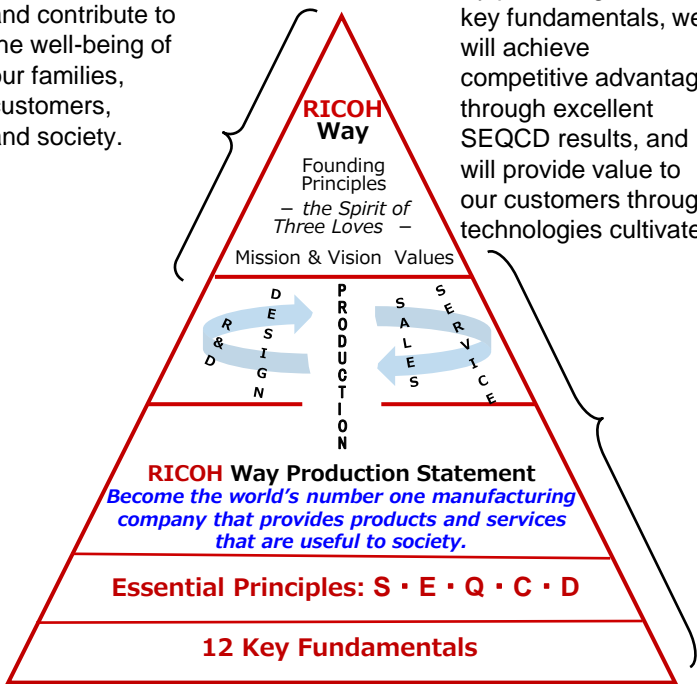
Our mission is to understand and transform how people work, The future that lies beyond the transformation is a sustainable society where job satisfaction and economic growth are in harmony and people’s potential and creativity are unleashed.



Structure of RICOH Way *Production System*

In 1946, Kiyoshi Ichimura defined the RICOH Group's founding principles, which tell us how to do business, encouraging us to constantly improve and contribute to the well-being of our families, customers, and society.

RICOH Way Production Statement is the ultimate goal in our production operations. By practicing the 12 key fundamentals, we will achieve competitive advantage through excellent SEQCD results, and will provide value to our customers through technologies cultivated.



RICOH Way Production Statement

Become the world's number one manufacturing company that provides products and services that are useful to society.

Our Manufacturing mission

- Our manufacturing mission is to efficiently create and stably supply products and services that are useful to society. Furthermore, we will make full use of the technological capabilities we have cultivated, to co-create across our value chain and enable us to grow into a digital service company.

Role of RWP

- We will continue to evolve RWP in line with changes in the world, while valuing Ricoh's manufacturing heritage.
- All employees involved in manufacturing will value the 12 key fundamentals of RWP and will continually strive for improvement. This creates consistency in our actions and increases reliability, strengthening the foundation of our manufacturing.
- We believe that by building on this foundation and the necessary elements to realize the vision of each company and business, we will become a world-leading manufacturing group that surpasses our competitors.

Realization of Fulfillment through Work

- We, the employees involved in "manufacturing," evolve our "work" by utilizing and horizontally deploying digital technologies and innovative methods based on the 12 Key Fundamentals of RWP. We will realize our own "Fulfillment through work" by working energetically, positively contributing to our customers and society.

12 Key Fundamentals

1. Think Safety; Act Safety

2. Embrace 5S

3. Foster Employee Development

4. Be Environmentally Responsible

5. Model Corporate Social Responsibility

6. Deliver Quality

7. Breathe Fact-Based Decision-Making

8. Use Visual Management

9. Deploy Standardization

10. Live KAIZEN

11. Pursue Super Low Cost

12. Implement Synchronization

SDCA+PDCA



Safety



Environment



Quality



Cost



Delivery

RICOH'S Commitment to the SDGs

What are the Sustainable Development Goals?

SDGs* are common global goals that aim to realize a sustainable and better society to "leave no one behind." It consists of 17 goals with a deadline of 2030.



SDGs and Seven Materialities (Important Social Issues)

The Ricoh Group has identified seven materialities related to 12 of the SDG goals and has set ESG* targets linked to each materiality. We will contribute to a sustainable society (achieving the SDGs) by working to achieve these goals through our production activities.



Production activities that contribute to ESG*

E(environment) : Reduction in GHG* emissions, new water usage, landfill disposal volumes and virgin material usage (reuse and recycling activities). Forest conservation and, biodiversity conservation activities

S(Social) : Reduction in occupational accidents, social contribution activities, respect for diversity (diversity, equity and inclusion*)

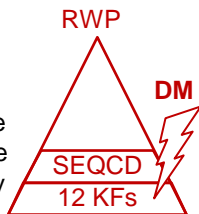
G(Governance) : Legal compliance, Code of conduct compliance, Information security education

DM : Digital Manufacturing

- DM effectively supports the practice of the 12 Key fundamentals(KF).
- DM has three objectives:

1. To improve SEQCD and create a comfortable work style

By collecting digital data from the Gemba, we aim to further improve SEQCD, ensure stable production and supply and improve efficiency to enable the creation of a comfortable work style.



2. To provide useful digital services to our customers

By collecting and analyzing performance data from our customers' sites, we identify and improve manufacturing issues and contribute to improving customer productivity. We will also develop production solutions for our Gemba and provide them to our customers to improve their productivity.

3. To evolve design and development processes to enhance product and service offerings.

By bringing together data from development and design areas with data from production areas, we will further evolve our product and service offerings.

Let's make good use of DM to practice RWP

- In order to quickly share and horizontally deploy DM activities, it is important to utilize a DM platform that “collects”, “stores” and “uses” on-site data.

Getting Started

Who should use this guidebook ?

- Everyone working within our manufacturing facilities! RWP is equally applicable for both direct and indirect employees.

How to use this guidebook

- The RICOH Way Production System guidebook is a reference that explains what each Key Fundamental (KF) is and why it's important.
- It gives the basic knowledge necessary and some examples of how to put each KF into practice, so we can quickly apply it in our daily work.
- Please use it from time to time to refresh and “go back to basics”.
- It is not a substitute for RFG policies and standards. In addition, it does not replace the policies and standards issued by individual RFG companies related to their local operations. Rather, it is a guide to the RICOH Way Production System's high-level principles of production.



WHAT

- RFG is committed to ensuring a healthy and safe working environment, for the well-being* of all employees. This is achieved when everyone complies with rules and regulations and follows safe working practices.
- We must continually monitor standards, predict and prevent hazards, provide safety education and training and improve the hygiene of the working environment, taking preventive measures against diseases.

Recognize Hazards



Take Action

WHY



- RFG's basic policy is to promote business activities that prioritize employee health and safety.
- Ensuring the health and safety of our employees and creating a comfortable working environment are the foundations for us to achieve results and grow every day through our work.

KF #1: Think Safety; Act Safely

HOW

Comply with the rules and regulations for your workplace. Take an interest in health and safety activities and demonstrate proactive action.

1. Health & Safety Education and Training

- Complete health and safety education and training appropriate to the work you are responsible for and understand rules and safe working practices
- Obtain necessary qualifications or licenses.
- Regularly undertake training to maintain and improve safety awareness.
- Take part in hazard experience education and hazard prediction training (KYT*) to improve your sensitivity to identifying and avoiding risks in daily work.



e.g.KY training using 360° view
: CMC(Numazu)

2. Maintaining Safe Work Practices

- Follow all safety rules, procedures and workplace specific rules.
- Ensure safety before you start your daily work.
- Wear personal protective equipment (PPE) in designated areas, where residual risks remain.



3. Actions to take when detecting danger

- Safety starts with you. Recognize unsafe conditions or practices, in your work areas and that of others, and report them to your supervisor immediately.

If you notice an unsafe state:

1. STOP the activity

Act with courage!

2. CALL your supervisor

And assist with problem resolution.

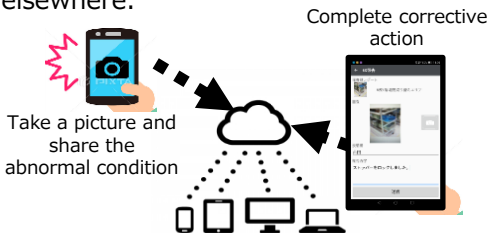
3. WAIT for instructions

Only continue the activity when the unsafe state has been removed.



4. 5S and Safety Audits

- Regularly check the workplace safety and 5S conditions to detect abnormal states and workplace hazards.
- Share issues and best practices you find with other workplaces, to ensure that similar problems do not occur elsewhere.



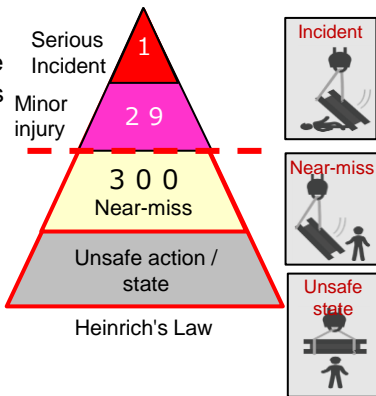
KF #1: Think Safety; Act Safely

5. Preventive Activity

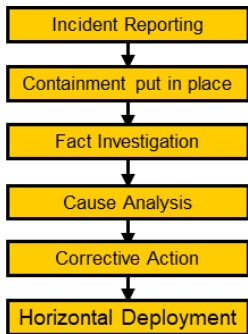
- Heinrich's law says that if we can reduce unsafe behaviors / states, near-misses and minor injuries, we can prevent the occurrence of serious incidents.

- If you see unsafe behaviors / states or near misses in the workplace, share them and take measures according to the risk.

- Engage in the evaluation of potential risks that may arise from changes in the workplace (e.g. introduction of equipment, process and layout changes) before starting operations, and make improvements based on the results (Risk Assessment*).



6. Incident Management



- Report incidents and accidents to your supervisor immediately and provide any assistance
- Investigate using fact-based, root-cause analysis so corrective actions can be taken.
- Understand global incident information shared via RFG. Strive to prevent similar incidents and disasters from occurring.

7. Health & Well-being*

- RFG strives to improve the health and well-being of each and every employee and contributes through the provision of a comfortable work environment.
- We work to prevent occupational diseases through risk assessment* and health management.
- We carry out activities to support mental and physical health, such as providing regular health check-ups, organizing health and well-being events and promoting work-life management*.
- We foster an organizational culture in which employees can work energetically, by ensuring daily communication and creating a comfortable work environment.



**Employee yoga
experience (PFU)**



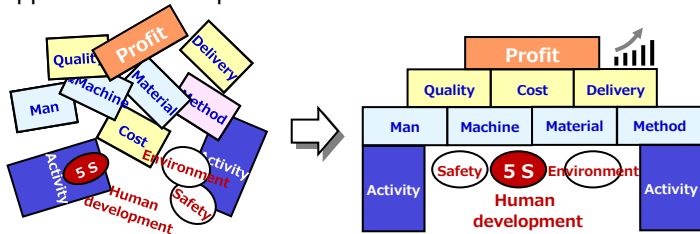
**Health promotion
activity (RPL)**

Embrace 5S

KF #2

WHAT

- 5S is the foundation of RICOH operations. Regardless of your workplace and position, it not only helps you maintain an optimal work environment, but also helps you identify opportunities for improvement.



- It involves practicing the 5S steps in daily work to create and maintain a safe, efficient and comfortable workplace.

"5S" Step		Meaning and Actions
1	Sort	Sort and remove unnecessary items
2	Set in order	Place necessary items in a designated place for easy retrieval and return.
3	Shine	Create a clean workplace. Inspect conditions while cleaning and correct abnormalities.
4	Standardize	Maintain optimum workplace condition, by making the first three steps a standard way of working.
5	Sustain	Maintain the habit of following the first four steps.

WHY

- 5S creates an environment where normal and abnormal conditions can be easily recognized by all employees.
- 5S fosters a culture where workplace organization standards are maintained and continuously improved.

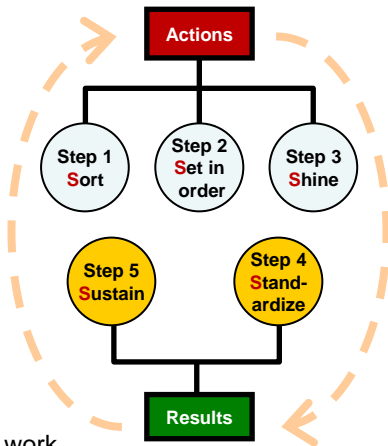
- 5S activities improve:

Direct effect

- Safety
- Factory hygiene
- Quality
- MUDA reduction
- Employee productivity
- Equipment longevity and reliability
- Resource conservation and pollution prevention
- Disease prevention (clean work environment)

Indirect effect

- Ownership of work processes and environment
- Positive attitude to work
- Company profit and future growth as an industry leader
- Building a comfortable workplace



HOW

Understand and put into practice the RFG common 5S rules and local 5S rules for your workplace. Continuously practice 5S and create a workplace where everyone can work comfortably.

1. Three principles for successful 5S

- 1. Leading by example** - Demonstrate the importance of 5S through your actions.
- 2. 5S Understanding and practice** – Undertake regular 5S training and apply your learning.
- 3. Participation by all employees** – Understand your 5S role and participate in its implementation.

2. RFG's Seven Common Rules of 5S

RFG is committed to the implementation of the seven 5S rules.

**Rule 1: Avoid placing objects directly on the floor
(except for items that are fixed directly to the floor)**

- Floor condition is visible and easy to clean.

Bad example



Good example



- Dropped objects or abnormal conditions are easily seen.

KF #2: Embrace 5S

Rule 4: Wear proper work clothes

- Observe the dress code set by your workplace and wear designated PPE so you can work safely, with good work discipline.



e.g. Gemba



Office



Special work



Warehouse

- Follow the dress rules (protective equipment) established by each workplace.

Rule 5: Follow height guidelines

- Follow height guidelines to ensure vision is not obscured and safe ergonomic practice is enabled.

Upper limit

Guideline:

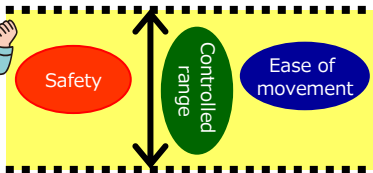
- Asia:140cm

- Europe & USA:150cm

Continually work towards achieving the height limit guiding principle.



Upper limit: View is not blocked.



Lower limit: Allows access for cleaning.

Rule 6: Keep equipment and buildings clean

- Develop the habit of valuing your workplace and tools, preventing deterioration and breakdowns.

Bad example



Good example



- Clean every corner of the building on a regular basis, including places that are not normally accessible (e.g. behind equipment, redundant equipment and storage rooms).

Rule 7: Don't place items on the top of shelves and cupboards

- Prevent unmanaged conditions (where things are placed anywhere), removing the risk of items falling from shelves and maintaining a consistent look.

Bad example



Good example



- Check the status of compliance with the rules through regular workplace patrols and make improvements as necessary.

3. 5S in common areas (offices, laboratories, etc.)

Office



Organized desk drawer



Clear desk, clear screen

Laboratories



Waiting



Experiment



Finish

- Visualization of a test in progress
- 5S condition of equipment and instruments

Cleaning tools



Location management
/ Owner visualization

- Organize your personal and shared data storage, so you can easily access information you need.
- Implement 5S in common areas such as restrooms, canteens and outdoor areas, to keep the entire factory clean.
- Pick up any waste you see – don't walk by

Develop a 5S mindset of following rules, valuing things, and being considerate of your surroundings.

Always be aware of 5S and develop autonomous 5S habits.

Foster Employee Development

KF #3

WHAT

- Ricoh's Mission & Vision is to deliver Fulfillment through Work by understanding and transforming the way people "work" and striving to create new value in work. Our employees are at the heart of Ricoh's business.
- There are three pillars to our human capital policies:
 - **Self motivation** : Enable employees to maximize performance and fulfil potential by encouraging a self-motivated mindset and enabling autonomous work styles.
 - **Growth** : Unleash employee creativity to enable business growth.
 - **Fulfillment through Work** : Create a corporate culture where employees experience Fulfillment through Work.



WHY

- In order to continue business growth, as society changes drastically and competition intensifies globally, it is essential to develop self-motivated employees who can respond to these changes.
- We grow through contributing to society, our customers, and the people around us, and will gain our own "Fulfillment through Work." This leads to the development of the company and enriches our lives.

HOW

1. Grow a self-motivated mindset

- Grow your mindset to think and act autonomously; be guided by the Ricoh Way and Ricoh Way Production System.
- RFG supports this through sharing its mission, vision, and goals. We provide an environment where employees can demonstrate their independence and creativity. In addition, we will foster a corporate culture that encourages employees to challenge for high performance.



The Ricoh Way Recognition Program



Ricoh Way Values Award System

2. Align personal and business growth

- Continuously grow the knowledge and skills for your work. Be self-motivated, seeking out opportunities to utilize your expertise.
- Develop your digital capability to transform work.
- Actively engage in skill development programs provided to enhance your skills and abilities. Utilize them to improve operational efficiency and productivity, to contribute to customers and new business growth.

Grow continuously for personal and business success

KF #3: Foster Employee Development

3. Create a culture of “Fulfillment through Work”.

- Increase opportunities for communication, for example encouraging personal interactions, 1 to 1 meetings, objective and personal development planning and coaching and mentoring.
- Foster a workplace culture of mutual recognition and praise for example through Ricoh Way Values Award System and Kaizen conferences (global and local).



- Work to improve employee engagement*, based on the results of our global survey.
- Create an engagement culture where employees and the company want to grow together, with a sense of "Fulfillment through work".



Be Environmentally Responsible

KF #4

WHAT

RICOH Group Environmental Declaration

We proactively reduce environmental impact and strive to improve the Earth's self-recovery capabilities to achieve a zero-carbon society and a circular economy through business.

- RFG is working in four areas of activity:



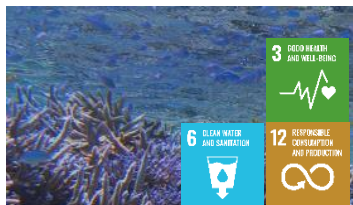
1. Realization of a zero-carbon society

Realize a decarbonized society with reduced greenhouse gas emissions



2. Realization of a recycling-oriented society

Engage in comprehensive resource efficiency and recycling



3. Pollution Prevention Initiatives

Minimize the risk of chemical substances affecting human health and the environment



4. Initiatives for Biodiversity Conservation

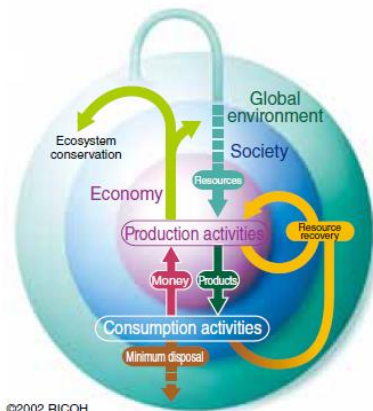
Enhancing the Earth's regenerative capacity by protecting biodiversity.

KF #4: Be Environmentally Responsible

WHY

- RFG considers environmental and business activities to be integral to each other. We are working to help build a society in which the impact on its environment is maintained at a level that never exceeds the Earth's self-recovery capabilities.
- RFG expresses the ideal sustainable society as a society in which the three Ps of Prosperity, People, and the Planet are balanced.
- We will strive to solve social issues and contribute to the achievement of the Sustainable Development Goals (SDGs).

■ Pursuing the Ideal Society



KF #4: Be Environmentally Responsible

HOW

1. Realization of a zero-carbon society

RFG's 2040 Zero-Carbon Environmental Targets:

- Zero GHG* emissions across the entire value chain
- Switch to 100% renewable energy for the electricity required for our business

To quickly achieve the above goals, we:

1. Promote innovation in manufacturing processes

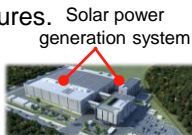
Continuously improve production processes to achieve production with lower environmental impact, by eliminating unnecessary processes and using materials with a lower environmental impact.

2. Introduce high-efficiency equipment

Replace traditional technologies with high-efficiency and energy-saving technologies. Construct factories and offices to incorporate environmentally friendly design features.

3. Actively use renewable energy*

Introduce renewable energy power generation at business sites such as solar power generation systems. Purchase electricity with a high proportion of renewable energy.



Environmentally friendly factory(RMC)

4. Reduce impact throughout the supply chain

Cooperate with suppliers, reviewing transport methods, optimizing load efficiency and eliminating unnecessary journeys.

5. Make improvements to in-house facilities and equipment

Maintain optimal operating conditions for existing facilities and equipment and make continuous improvement.

KF #4: Be Environmentally Responsible

2. Realization of a recycling-oriented society

- RFG is working to ensure the efficient use and recycling of resources to realize a recycling-oriented society. We provide recycled products and are working to switch to sustainable resources that have a low environmental impact.

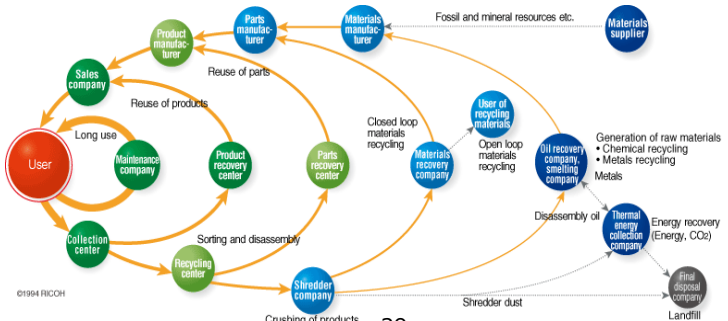
RFG's 2050 Resource Conservation Environmental Target:

- Virgin materials usage ratio: 12% or less

The Comet Circle™ :

- The Comet Circle™ represents RFG's approach to reduce its environmental impact. It includes the entire lifecycle of our products, including upstream and downstream of our business activities.
- We will prioritize the inner loop and promote reuse and recycling, which has a low environmental impact and generates high economic value.

Concept of a Sustainable Society: The Comet Circle™



KF #4: Be Environmentally Responsible

Waste and Emissions Reduction Activities

- Everyone at RFG's production facilities practices 5R activities to minimize waste and emissions.



Environmental Business
Development Center

1 Refuse

- Avoid buying anything that is wasteful.

2 Return

- Return packaging materials to suppliers.

3 Reduce

- Reduce waste at the source.
- Limit waste by improving quality and yield.
- Reduce materials used (thinner and lighter parts)

4 Reuse

- Reuse as much as possible.
- Optimize product and process design for easier second life.

5 Recycle

- Recycle any remaining waste.
- Optimize product and process design for easier recycling after use.
- Actively use recycled materials

- Consider how you can contribute to reducing the environmental impact of resources, including plastic, paper, cardboard, metals and water.

KF #4: Be Environmentally Responsible

3. Pollution prevention initiatives

- RFG conducts its corporate activities in a way that minimizes the impact of chemical substances on health and the environment. We are engaged in a variety of pollution prevention activities, such as reducing the amount of chemical substances used and their emissions.
 - Comply with laws, regulations, and workplace rules.
 - Take necessary measures to prevent risks posed by chemical substances used in production activities to human health, the environment, and safety.



Example: Label to prevent pouring of chemicals into hand washing area

4. Initiatives for biodiversity conservation

- RFG believes that the conservation of biodiversity will lead to the creation of a prosperous and sustainable society.
- Actively engage in biodiversity activities to reduce the environmental impact of your business activities and engage in its protection.



One Million Trees Forest Conservation Project(YET)



Litter picking around the factory
(RI Tohoku plant)



Beekeeping activities
(RIF)

KF #4: Be Environmentally Responsible

5. ISO14001 Management System

- ISO 14001 is an international environmental management system standard used in production facilities. It is an important tool used to ensure:
 - We comply with environmental laws and regulations.
 - We continually improve our environmental approaches, by using the Plan-Do-Check-Act (PDCA) cycle.



6. RFG Initiatives

- In order to reduce the environmental impact of the entire supply chain, RFG ensures that raw materials and components meet the following two criteria:
 - **Green Procurement Standards**
We require both RFG* and suppliers to purchase environmentally friendly raw materials and parts for use in RICOH products.
 - **Chemical Management System (CMS)**
We require both RFG* and suppliers to manage chemical substances to ensure that banned or restricted chemical substances are not used in raw materials and parts.

Model Corporate Social Responsibility

KF #5

WHAT

- CSR (Corporate Social Responsibility) is a business model where companies fulfill various social responsibilities while conducting economic activities.
- RFG is committed to its responsibility as a corporate citizen, respecting the cultures and customs of all countries and regions.
- We demonstrate leadership in compliance with national and international laws.
- We encourage our employees and business partners to positively contribute to the SDGs and address social challenges.
- The actions that employees should take to fulfill our social responsibilities are stipulated in the Ricoh Group Code of



We are committed to providing excellence to improve the quality of living and to drive sustainability.

WHY

- As a good corporate citizen, RFG respects the cultures and customs of all countries and regions, joining in active partnership with like-minded people and inspiring employees to contribute to the development of a sustainable society and planet.

HOW

1. Respect for People



- Respect the human rights of all stakeholders* (employees, suppliers, business partners, local community members and customers).
- Promote Diversity, Equity & Inclusion* and bring together the unique talents, experiences, and insights of people to create new innovations.
- Support the work-life management* of our employees and provide a safe and comfortable workplace.

2. Integrity in Corporate Activities



- Operate an open-door policy so that employees can report any problems without being disadvantaged.
- Update and comply with information security rules and promptly report any potential cyber attacks or loss/leakage of information.
- Carry out the necessary procedures regarding import and export operations and understand and comply with related laws and regulations.
- Consider ESG* (environment, society, governance) in the supply chain and implement responsible procurement.
- Through Responsible Business Alliance (RBA*) membership, strengthen efforts on social, environmental and ethical issues.
- Create a business continuity plan (BCP*) for the entire supply chain, to enable us to quickly restore production and continue to provide products and services to customers in the event of a disaster.

KF #5: Model Corporate Social Responsibility

3. Social Contribution Activities:



- Provide employee education opportunities to raise awareness and sensitivity towards social issues.



Participation in SDG Action Month (TRF)



SDGs Education Center(RIF)

- Promote Global SDG Action Month, encouraging all employees to think, pledge and act on the UN's SDGs.

- Encourage employees to engage in volunteering activities linked to RFG's three priority areas:

1. Inclusion in the Workplace*



Example: Youth Digital Empowerment Program (RVN)

2. Community Development (Education, Healthcare, Urban development)



Example: Donations to Children's Food Banks (RINS Tottori)

3. Response to Climate Crisis and Biodiversity



Example: Forest conservation activities (REX Ena)

WHAT

- RFG is committed to always remaining trustworthy and attractive for customers.
- We strive to consistently delight customers through the provision of RICOH Quality products and services and the co-creation of value..

Build a strong global brand by creating new value

- Based on the principle of "customer first," we will continue to achieve a high level of customer satisfaction (CS).
- 1. Know your customers** - Regard everyone as your customer. Work to understand your customer's workplace and work methods; think and act from their perspective. Explore their needs, striving to understand upspoken feelings and expectations.
 - 2. Co-create value** - Create value based on customer's requests and potential needs. Anticipate what new value customers may require in the future and continuously make improvements to help them.
 - 3. Pursue CS as one Team** – Leverage your individual strengths to solve customer problems and improve value through teamwork.

WHY

- RFG continuously strives for CS. We work with the aim of coexisting and co-prospering with our customers to ensure that we will always be their company of choice.



- Because customer satisfaction is a given in the marketplace today, it is essential that we provide products and services that exceed the expectations of our customers to continue to impress them.
- Maintaining a high level of CS not only creates Ricoh supporters and repeat customers, but also leads to new business, contributing to improved business performance.
- We will continue to pursue the manufacturing quality so that our customers can use our products and services with confidence, and we can maintain our trusted No.1 brand.

HOW

- To ensure customer satisfaction with the products and services provided, we build in quality and guarantee value. We utilize digital technologies and promote production activities that value the following 4 pillars.
1. **Prevention Activities** - Take action to prevent known quality issues prior to starting production.
 2. **Build in Quality (Right First Time)** - Ensure product quality is achieved “Right First Time” with robust production systems, including the use of tools, work methods, digital data and AI.
 3. **Contain Quality Issues** - Introduce quality assurance activities through operators, tools and data utilization to ensure that issues are not passed on, including specification checks, image recognition and use of RFID.
 4. **Recurrence Prevention** - Report any problems that arise immediately. Learn from past problems to improve the quality of products and business processes, including using data analysis and BI tools.

Use the following references and tools

- Quality Management System (QMS) - ISO 9001 standards.
- What, Then why (TTY) approach P.43
- Failure mode effect analysis (FMEA*)
- Quality prediction*
- QC 7 tools, New QC 7 tools P.41, P.42
- Quality management and KAIZEN acceleration by DM utilization(Digital data and video)
- Automation of tasks prone to human error.

If an abnormality is found, the production line should be stopped to solve the problem.

Breathe Fact-Based Decision-Making

KF #7

WHAT

- At RFG, fact-based decision-making is how we approach all decisions. It's how we think.
- “Go, see, and investigate” is a fact-based approach. By observing and capturing all the evidence, we are able to understand the situation, define problems accurately, and transform them into opportunities to improve.
- In order to investigate something that cannot be seen, we gather information and organize it in a way that helps us visualize the condition.
- We challenge every employee to observe the actual process, product, data or document to capture factual evidence.
- We don't make assumptions or guesses based on experience alone; we make decisions based on facts.
- Fact-based decision making is not only effective for problem solving, but also for processes such as business planning and strategy and policy formulation.



Being fact-based is not only about what you know, but also what you don't know.

KF #7: Breathe Fact-Based Decision-Making

WHY

- We all have different perceptions. By basing our decisions on objective facts, we remove ambiguity such as individual opinions, prejudices, emotions, and preconceptions, enabling us to make decisions based on a common understanding.
- By knowing the facts we can do the right thing, we can:
 - Make quicker decisions.
 - Avoid making mistakes.
 - Put reliable counter-measures in place.

Find the facts to understand the problems

HOW

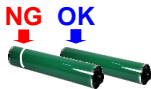
- Understand the problem by going to Gemba, the place where the process takes place, to observe and capture the facts.
- Analyze variations from the standard.
- Use innovative thinking to understand the facts:
 - Invisible (too small) ⇒ Enlarge it.
 - Invisible (too fast) ⇒ Watch in slow motion.
 - We don't understand the differences:
 - ⇒ We compare good and bad.
 - ⇒ We look at it from different perspectives, viewpoints and angles.
 - ⇒ We analyze performance over time.



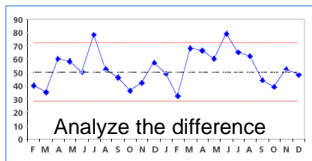
Enlarge



Slow motion



Compare good and bad



KF #7: Breathe Fact-Based Decision-Making

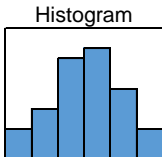
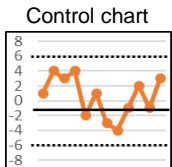
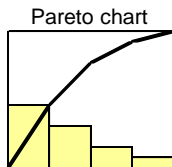
Use the following references and tools etc.

- WhaT, Then whY (TTY) P.43
- KAIZEN 10 Steps P.57,58
- QC 7 tools, New QC 7 tools P.41,42
- Value Stream Map(VSM) P.68
- Process Mapping P.49
- Image recognition tools

■ QC 7 tools

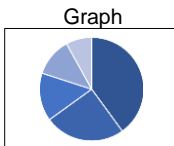
A tool that makes numerical data visible and easy to analyze.

- Sorting out problems after collecting numerical data
- Analytical/problem understanding method

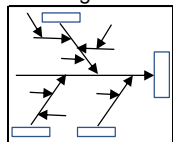


Check Sheet

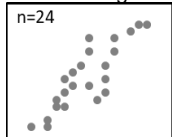
	1	2	3	4	5
A	○	○	○	○	○
B	○	×	×	○	×
C	○	○	○	○	×
D	○	○	×	×	×
E	○	○	○	○	×
F	○	○	×	×	×
G	○	○	×	○	○



Cause and effect diagram



Scatter diagram



KF #7: Breathe Fact-Based Decision-Making

■ New QC 7 Tools

A tool for organizing language data and making it into a form that can solve problems.

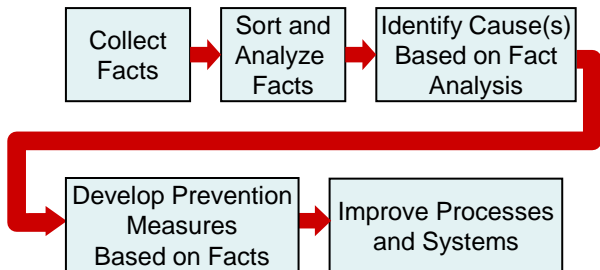
- Organize problems before taking numerical data
- Design, planning, and idea generation methods

Tool	Explanation
Affinity Diagrams	A method for organizing large amounts of information into common themes – for example ideas or opinions. It helps you see connections between items, which, in turn, can help you explore possible ways forward.
Interrelationship Diagrams	A method to show cause and effect relationships to help analyze natural links between different aspects of a complex situation, to prioritize areas for improvement.
Tree Diagrams	A method to break down broad categories of information into finer and finer levels of detail, helping to move step-by-step thinking from generalities to specifics.
Matrix Diagrams	A method of depicting the relationship between multiple groups of information, designed to show the relative strengths and weaknesses of these relationships. It exposes interactions and dependencies between things.
Arrow Diagrams	A method that visualizes the sequence of tasks and activities. It can help identify bottlenecks and areas for improvement, to optimize the schedule / flow of work.
PDPC Method	A method of identifying potential risks and planning countermeasures to mitigate them Used at the planning stage, it ensures quick response to changes, to achieve goals.
Matrix Data Analysis	A method that classifies items by identifying two major characteristics common to all items and then plotting each item as a point on a standard x-y chart. This makes it easier to see how the individual items relate both to the characteristics and to one another.

KF #7: Breathe Fact-Based Decision-Making

■ Using TTY Approach for Solving Problems

TTY stands for What – Then – Why and is a framework to systematically approach problems.



Don't assume; get the facts

WHAT

- Visual Management is used to create a work environment where “normal” and “abnormal” conditions can be easily recognized by all employees.
- Visual management should be clear and easy to understand, and trigger action.
- Digital data makes the status in the Gemba visible anywhere, anytime.

Visual management is a universal language



Abnormal condition:
Serious issues.
Immediate action is
needed.

Caution: Some issues.
Action is needed to
return to normal
condition. Monitor
closely.

Normal condition:
Results on track.
Continue monitoring

KF #8: Use Visual Management

WHY

- Visual management enables us to measure business performance against SEQCD targets: safety, environment, quality, cost, and delivery.
- Visual management enables all employees to quickly understand the critical controls of any process and triggers a rapid response to any deviation from the norm.
- Visual management allows all employees to perform efficiently by making decisions earlier, often predicting problems before they occur.
- This rapid response ensures we achieve all our SEQCD targets and exceed our customers' expectations.



Go to the Gemba to manage visually

KF #8: Use Visual Management

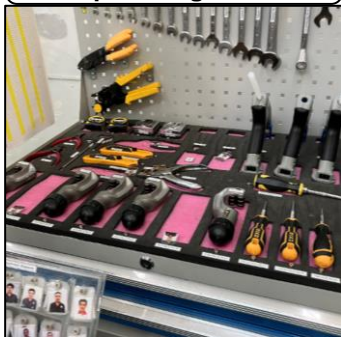
HOW

Visual management is practiced in line with the following three points:

1. It is important that anyone can easily understand whether the condition in the Gemba is normal or abnormal.

Make abnormalities visual, so corrective action can be taken immediately.

Visualization for workplace organization



Visualization Devices



Use the following references and tools etc.

- Floor markings
- Color coding
- Shadow boards
- Light indicators
- Audible alarms
- Display instruments

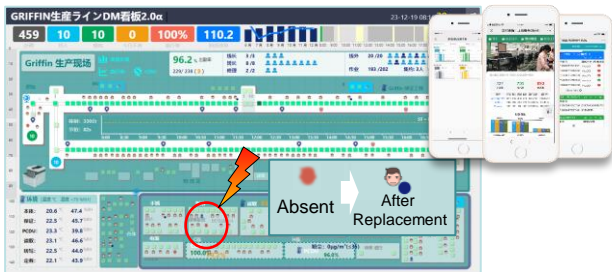
KF #8: Use Visual Management

2. It is important to know the production status anytime, anywhere.

- Utilize digital data to visualize production status on real time dashboards. Dashboard information can be accessed anytime, anywhere on a variety of devices. Utilize alert functions, to quickly escalate to changes in the situation.

Examples of real-time data include:

- Production status
- Quality results, Inspection results
- Manpower allocations.
- Personnel skills.
- Cycle time adherence
- Environment conditions



- Visualize the end-to-end* flow of goods and information so you can act based on the facts, including:

- Supplier inventory
- Stock in transit
- Market inventory
- Order information
- Production plan



Example: Visualization of MFP inventory status from sales point to factory

KF #8: Use Visual Management

Visualization of the Facts

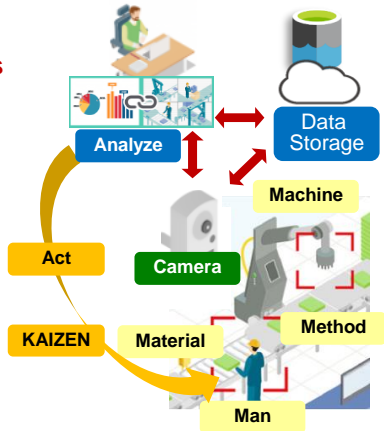
- RFG uses vision and information systems to enable greater understanding of facts behind production status, so rapid action can be taken.

Steps to capture facts:

1. Record phenomenon and collect and store process data.
 2. Analyze recordings and collected data.
 3. Understand the facts and identify opportunities for improvement.
 4. Implement improvements based on facts.
- By digitizing and storing vast amounts of Gemba data, it can be visualized anytime, anywhere, so KAIZEN can be performed quickly and in a short cycle.

Use the following references and tools etc.

- SEQCD reporting
- QC 7 tools P.41
- New QC 7 tools P.42
- Image recognition tools
- Business Intelligence tools
- Digital signage
- Digital KAIZEN P.56



KF #8: Use Visual Management

3. It is important to understand the process flow and work-flow

Fact-Based Process / Work-flow Visualization

- Process mapping is a tool that helps us easily see the sequence of work that makes up a process.



- Process mapping shows the flow of work and the relationship between each activity.
- Maps show what is happening rather than what should happen and allows us to make improvements based on the facts.

Use the following references and tools etc.

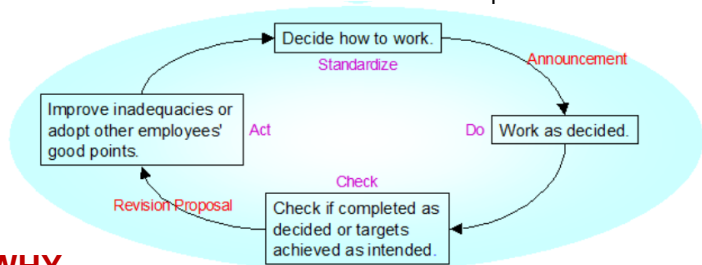
- Value stream mapping(VSM) P.68

Visual management ensures rapid response

WHAT

- "Standards" are rules and criteria to be complied with. They are created by incorporating information from known business processes, procedures, and regulatory requirements.
- "Standardization" is a series of organizational activities that sets standards, manages compliance to standards and controls revision of standards.

The standard is the foundation for improvement



WHY

- "Standardization" enables us to maintain and continuously improve the quality of our management and operations.
- "Standards" show us what to do and how to do it, so we can be successful in work, delivering quality products and services to our customers.
- It makes it easier to understand the contents and rules of the entire business system, making it easier to improve our operation.

No Standard, No improvement

HOW

- Take the initiative in continually carrying out standardization.
- Follow standardized management systems consisting of policies, procedures, work instructions, IT systems and digital solutions.
- Utilize the SDCA cycles to review, revise and improve our standardized management systems.
- Ensure compliance to the standards through internal and third-party audits.
- Standardize data structures and system environments to optimize the use of digital data.

Use the following references and tools etc.

- Various management systems – including Quality(QMS), Environment(EMS), Health and Safety(OSHMS).
- Business strategies and Policies (Company-wide, By Business Unit, By local company, By department)
- Laws and regulations (Countries and regions)
- Various internal standards -
 - RGS (RICOH Group Standards)* :
 - Common RGS*, Business Field RGS*
 - Local company standards
- Various manuals - including Process books, Work methods, Inspection books.



WHAT

- "KAIZEN" is the continuous improvement of work processes (methods), to obtain good work outputs (results).
- Continuous improvement at RFG means continuously improving operations to achieve customer satisfaction and business performance.
- "KAIZEN" is an activity that is integrated into the execution of daily work, and each and every employee plays a leading role.
- At RFG, we value a culture of SPM*, immediately deploying and improving other company's good practices.

Never stop improving

**Be better today
than you were
yesterday.**

**Be better
tomorrow than
you are today.**



Yesterday Today Tomorrow

WHY

- The world and the way we do business is constantly changing, at increasingly rapid speeds. We must continue to improve and exceed our customers' expectations to maintain competitive advantage.
- KAIZEN leads to improvement of SEQCD results.
- KAIZEN eliminates 3K work* and 3M work* to create a comfortable work environment.
- KAIZEN changes employees' mindsets and leads to personal growth.
- Results of KAIZEN can be horizontally deployed across RFG and within your workplace, leading to a spiraling up of the business processes of the entire group.



**The sense of satisfaction gained through KAIZEN enables
"Fulfillment through Work"**

HOW

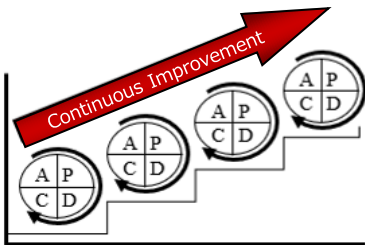
1. KAIZEN Perspective

- Make improvements from the following perspectives:
 - **Be Customer-Centric:**
Focus improvement activities on our customers. Co-create value with our customers.
 - **Be Process-oriented:**
Improve the way you work to produce results. Understand the essence of the problem, find the root cause and take action.
 - **Be Fact-based:**
Follow the principles of “Go, see, and investigate”. Focus on variation and differences.
 - **Be Priority-driven:**
Focus on the objective of the improvement and items that will deliver the biggest impact.

2. Putting the PDCA cycle into action

- By continuously practicing the PDCA cycle, we eliminate waste in the process and improve quality.

PDCA: Plan, Do, Check and Act



3. Employee Idea/ Suggestion Program

- Employees doing the work are closest to the facts. Your suggestions are key to improving our work processes.



- Generate ideas to improve SEQCD.



- Submit your idea through your factory's suggestion program. If agreed as feasible, engage in implementing your idea.



- Your implemented idea will be recognized and rewarded.



- Implemented ideas are shared with other departments, groups, or RICOH Group companies for everyone's benefit.

4. Small Team Improvement Activities

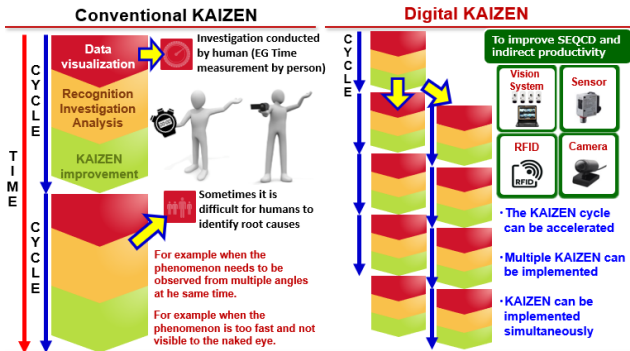
- When KAIZEN is carried out in a team, more ideas are generated.
- Participate in small team activities to improve the business and develop yourself. Develop and support other team members to increase KAIZEN knowledge.

5. Benchmarking

- Learning from others, internally within the RFG and externally with other organizations, will help us to:
 - Understand how well we are performing compared to others.
 - Identify opportunities for improvement and set targets.
 - Enable a mindset and culture of continuous improvement.

6. Digital KAIZEN

- Digital KAIZEN is the use of digital data and video from the Gemba to speed up the KAIZEN cycle.



7. KAIZEN for a Well-being workplace.

- At RFG, we quantitatively assess the ease of working and use this information to make improvements. For example, we use automation to eliminate 3M* and 3K* work.

KAIZEN 10 Steps

- Use the KAIZEN 10-step approach for problem-solving or making improvements.
- The KAIZEN 10-step approach is systematic and logical, ensuring all RICOH employees follow the same robust problem-solving process.

1. Introduction to the Problem

- Clarify the problem/opportunity and define the condition you want to achieve and why it is important to improve that now.
- Define the goal and clarify the scope.

2. Investigation of the Facts

- Understand the process and current performance.
- Accurately collect the facts about the current state,
- understanding variations and trends in relevant data.

3. Root Cause Analysis

- Analyze the facts and identify the root cause or mechanism which caused the problem.

4. Proposed Countermeasures

- Generate potential solutions to eliminate the root cause or causes.
- Select the best solution or solutions.

5. Implementation of Countermeasures

- Implement improvement plans using the 5W 1H* approach.

6. Confirmation of Effect

- Compare the result with the goal set in step 1.
- If the Kaizen activity did not achieve the goal, review and
- understand the reasons for the remaining gap.

7. System Improvement

- New rules, standards, or procedures are established to ensure that the improvements are continuously monitored and maintained.

8. Horizontal Deployment

- Explore and implement potential horizontal deployment opportunities.

9. Summary of Improvements

- Summarize the tangible and intangible benefits, including any benefit achieved by horizontal deployment.

Tangible: Quantifiable effect of the improvement, e.g. SEQCD improvement, customer satisfaction etc.

Intangible: Unquantifiable benefits of the improvement, e.g. employee growth.

10. Remaining Issues and Future Plans

- Issues remaining from the original problem/goal and the future plans required to implement any further improvements.

The 7 Factory/Process Wastes

- Non-value activities can exist in all processes. They increase our costs and add no value to the customer. We need to reduce or eliminate these types of waste. The 7 types of waste can be remembered using the acronym “TIM WOOD”:

Waste Type	Production Examples	Administration Examples
T ransportation	Movement of parts, materials and products between locations.	Movement of paper files for physical storage or signature
I nventory	Excessive work in progress.	Storage of obsolete or unnecessary files.
M otion	See 12 Motion Mudas (P.60-61)	Attending meetings with unclear goals. Carrying out activities when the goal is not clear.
W aiting	Waiting time due to line or equipment stoppages, long setups and inspection time	Waiting for meetings to start; waiting for approvals or information; waiting for slow systems.
O ver Production	Producing parts earlier than needed and more finished goods than necessary	Creating unnecessary documents. Making extra copies.
O ver Processing	Unnecessary, extra and duplicate work(excessive inspection, measurement and replacement)	Unnecessary signatures. Re-editing, matching and re-posting of materials.
D efects	Repair time due to defects. Processing costs for defective parts.	Reformatting data to make is useful. Correcting calculation errors.

KF #10: Live KAIZEN

12 Motion Mudras (wasted process movement)

- Eliminate “12 motion mudas” from your operations.

1. Both hands idle



Waiting time while both hands are idle

2. One hand idle



Waiting time while only one hand is being used and the other hand is idle

3. Pausing



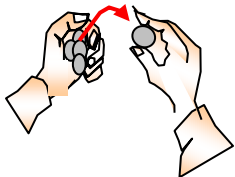
Pauses before starting the next movement

4. Excessive movement



Movement that is more than necessary

5. Switching



Switching of parts or tools from one hand to the other

6. Walking



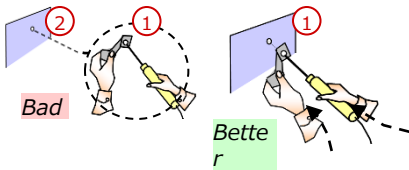
Excessive walking between the work station and parts/tools location

7. Turning



Turning around, twisting or stepping to reach parts located behind you.

8. Taking unnecessary steps



Taking separate steps, even when it's possible to combine process steps together.

9. Rework

Rework due to operator error / lack of training.

10. Stretching



Stretching due to processes taking place at height or parts located too high.

11. Bending



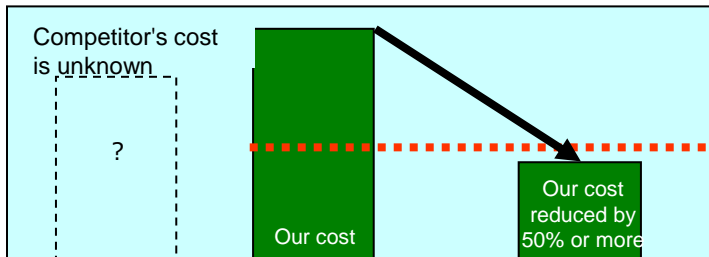
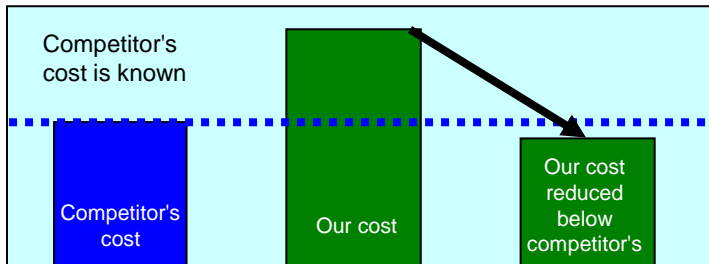
Bending due to processes taking place at low level or parts located too low.

12. Useless movement

Movement with no added value (excessive checking or preparation, repetitive movement, etc.)

WHAT

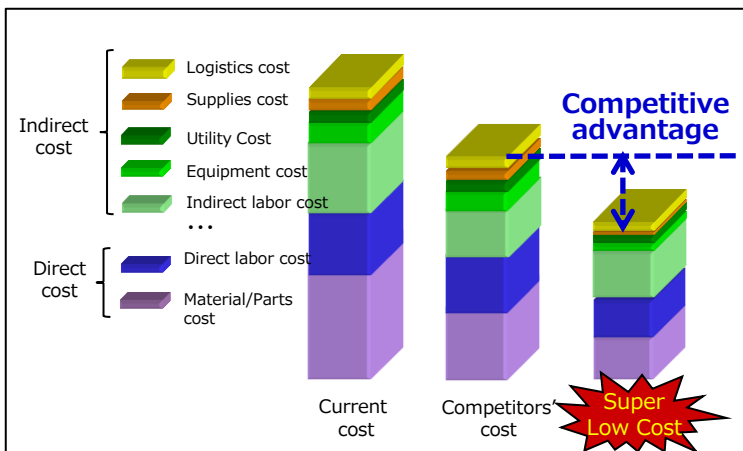
- Pursuing Super Low Cost involves implementing cost reform activities to achieve competitive advantage.
- It targets surpassing competitors' cost structures. If competitors' costs are unknown, it targets reducing costs by a minimum of 50%.
- It involves redesigning business processes using technological innovation and digitalization, to achieve cost reductions without compromising safety, environmental, quality and delivery performance or ease of working.
- Scope includes both direct and indirect costs.



KF #11: Pursue Super Low Cost

WHY

- Implementing super-low cost enables RFG to:
 - Optimize the cost of operation to remain competitive.
 - Continually meet the expectations of customers.
- By setting, working and achieving competitive advantage goals, RFG can become a leading digital manufacturing company.



HOW

1. Daily cost management activities

- Perform daily cost management PDCA activities, to continually realize competitive costs.
- Use cost performance indicators and related processes to achieve financial performance goals. Related processes include Cost-tree* and Output level management*.

Plan: Set super low cost targets and plan improvement activities for each cost performance and management expense item, to pursue competitive advantage.

Do: Implement improvement activities and manage progress.

Check: Measure results of improvement activities and any variances to cost targets.

Action: Review targets and improvement activities toward to the next step(continuous improvement.)



2. Process reform activities

Implement process reform activities using the following technologies to achieve a competitive advantage:

■ Cost reduction activities

- Evaluate all associated costs throughout the product lifecycle for new and existing products, through value engineering and value analysis.
- Generate improvements and alternatives to reduce costs and improve the value of the product, particularly to the customer, eg through recycling and configuration activities.

■ Redesign of workflows and utilization of digital tools

Reengineer workflows to radically redesign core business processes. Devise new ways of organising tasks and organising people and use IT systems / digital tools (including AI and RPA*) to enable the transformation.

■ Technological innovation initiatives

Develop and implement new technologies to radically change the method of working and reduce costs, eg automation technologies, measurement and control technologies, assembly and processing methods and production systems.

Always evaluate the ROI* (return on investment) for process reform activities.

WHAT

- Synchronization systematically organizes information, materials, and other resources through all stages of the end-to-end* value chain (order receipt to delivery and collection for reuse / recycling), to improve production and supply capability to meet customer needs.
- RFG are committed to distributing goods and information in the smallest unit whilst considering overall efficiency (pursuing one-piece flow).

WHY

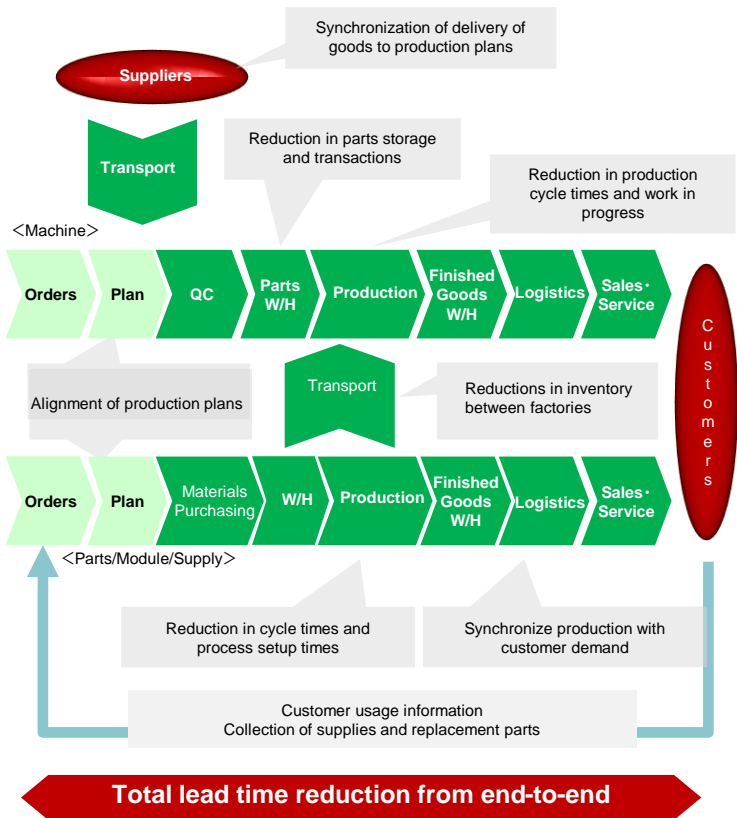
- Synchronized production not only realizes manufacturing at the lowest cost, but also leads to a reduction in environmental impact and enables flexible production. Expected benefit examples include:
 - Improvements in inventory turnover ratio and flexible production capabilities;
 - Reductions in lead time, GHG emissions, work-in-process and product inventory, logistics costs and space usage.
- Provides customers with the products and services they want in a stable and appropriate manner, increasing trust in RFG.

HOW

- Eliminate waste by synchronizing processes to optimize them for the customer, whilst pursuing one-piece flow.
 - Clarify goals and scope of activities.
 - Systematically organize and visualize the flow of goods in the end-to-end value chain and find waste.
 - Improve the variation between processes and create a condition where things flow smoothly, without blockages in the process.

KF #12: Implement Synchronization

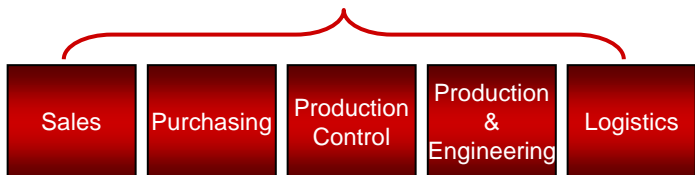
■ Scope of synchronization activities:



Value Stream Mapping (VSM)

- Value stream mapping is a lean manufacturing method used to analyze and design the flow of materials and information needed to efficiently deliver products or services to our customers.

Identify and eliminate waste in all areas



- VSM engages all departments to give everyone a common understanding of the end-to-end process.
- VSM involves visualizing the desired future state and taking a cross-functional team approach to problem-solving to make necessary improvements by:
 - Combining or simplifying processes
 - Eliminating 7 factory/process wastes
 - Standardizing best practices
- The result of VSM is a more efficient and effective process.

Visualize and act on facts

Takt Time (TT) and Line Balancing

Takt time and line balancing are techniques for balancing workloads between production processes to maximize productivity.



- **What is takt time?**

- Takt time is the time needed for the work to be completed at each workstation.
- It sets the pace of the production line to meet customer requirements.

$$\text{TT} = \text{Available time to produce} \div \text{customer requirements}$$

- **What is line balancing?**

- Line balancing means all operators work at the same pace and with the same level of efficiency.

- **Why are takt time and line balancing important?**

- Takt time and line balancing ensure that we meet daily production requirements on schedule.
- By setting an appropriate workload, it ensures a consistent and comfortable work condition.

- **How is it done?**

- Ensure production processes are designed with optimized takt time and line balancing in mind.

Acronyms Explanations-1

Word	Page	Explanation
RFG	-	Ricoh Family Group: Sometimes expressed as Ricoh Group. A general term that includes Ricoh and its affiliated companies.
SDGs	-	Sustainable Development Goals: Common goals agreed upon by the United Nations in 2015 that define global priorities and the ideal state of the world by 2030. It consists of 17 goals and 169 targets.
ESG	-	"Environment," "Social," and "Governance:" Corporate processes required for long-term business growth and a sustainable society. Management that emphasizes these themes is called ESG management, and Ricoh also practices it.
GHG	-	Greenhouse Gas: Ricoh is working towards reducing GHG emissions across the entire value chain to net zero by 2040.
Diversity, Equity & Inclusion	P8 & 36	"Diversity," "Equity," and "Inclusion:" Diversity, equity, and inclusion are organizational frameworks which seek to promote "the fair treatment and full participation of all people", regardless of individual differences.
Well-being	P11 & 15	A term that refers to a state of being satisfied not only physically and mentally, but also socially.
KYT	P12	K for Kiken (=Hazard), Y for Yochi (=Prediction), and T for Training: This is training to improve the ability to discover and resolve hazards hidden in work or the workplace.
Risk assessment	P14 & 15	A systematic process of identifying hazards and evaluating any associated risks within a workplace, then implementing reasonable control measures to remove or reduce them, to prevent occupational health incidents / accidents.
Work-life management	P15 & 34	Refers to maintaining a harmonious relationship between your work and personal life. It involves consciously managing your time and energy to meet both professional and personal commitments while prioritizing self-care and well-being.

Acronyms Explanations-2

Word	Page	Explanation
Engagement	P25	How much an employee is committed to helping their organization achieve its goals. It's demonstrated by how employees think, feel, and act, as well as the emotional connection employees feel, towards their organization, their work, and their team. Ricoh conducts a global employee engagement survey and uses the results to improve engagement.
Renewable energy source	P28	A resource of which there is an endless supply because it can be replenished. For example: Solar, wind, hydro, geothermal power etc.
Stakeholders	P34	A person, group or organization with a vested interest, or stake, in the decision-making and activities of an organization. For example: Customers, business partners, shareholders/investors, employees, local communities etc.
RBA	P34	"Responsible Business Alliance:" It is an international business organization that aims to support the safety of working environments and the rights of workers in the supply chain. We are working on activities to comply with the following. RBA WEB Site http://www.responsiblebusiness.org/
BCP	P34	"Business continuity planning:" A plan for quickly restoring and continuing business in the event of a crisis such as a disaster or pandemic. It is important to conduct training based on the plan.
Inclusion in the Workplace	P35	Activities that support the work of people who have difficulty working, with the aim of creating a society where "no one is left behind."
FMEA	P38	"Failure Mode and Effect Analysis:" A step-by-step approach for collecting knowledge about possible points of failure in a design, manufacturing process, product or service. The points of failure are evaluated and ranked based on the probability of failure occurrence, magnitude of impact, difficulty in detecting occurrence, etc. to prevent failures.

Acronyms Explanations-3

Word	Page	Explanation
Quality prediction	P38	Activity to predict the quality of assembly processes based on data (risk of missing parts, wrong parts orientation, damages, incomplete process and similar parts), and to visualize and manage performance data to ensure that assembly quality can be improved consistently from NMI to mass production.
End to End	P47 &66 &67	Can also be expressed as “E2E.” In manufacturing, the scope covers the process from order receipt to delivery to customers and then collection for reuse / recycling (see figure on page 67). Optimizing manufacturing from an end-to-end perspective will lead to stable supply and shorter lead times.
RGS / Common RGS / Business Field RGS	P51	“RICOH Group Standards.” The Group’s strategies, policies, laws and regulations, approaches and know-how fostered from a series of improvements are brought together into common rules- RGS. Common RGSs are standards that can be effectively shared within Ricoh Group. Business-Field RGSs are standards that can be effectively shared within a relevant specific business group, or business unit.
SPM	P52	SPM is an acronym coined by Japan’s QC Circle Headquarters, which means to imitate immediately. The intention is to “ <u>speedily</u> ” learn (“ <u>pinch</u> ”) each other’s good activities and deploy them (“ <u>mimic</u> ”) for quick improvement results.
3K work	P58	Referred to in English as 3D, it is an abbreviation for Kitsui (=Difficult), Kitanai (=Dirty) and Kiken (=Dangerous)). Removing 3K (3D) will help create a wellbeing workplace. Improvement examples include introduction of jigs and tools, automation using robotics etc.

Acronyms Explanations-4

Word	Page	Explanation
3M work	P58	Referred to in English as 3C, it is an abbreviation for Mendou (=Complicated), Misu-dekinai (=Critical that no mistakes are made), and Manneri (=Continuous and monotonous). It is a Ricoh's original term and removing 3M (3C) will help to create wellbeing in indirect work processes. Improvement example includes the introduction of digital technology, such as RPA.
5W1H	P59	An acronym for When, Where, Who, What, Why, and How, and can be used to organize and communicate information.
Cost tree	P64	This is a method to visualise both the indirect and direct costs to manufacture a product. It helps to clarify potential cost reduction activity areas for improvement.
Output level management	P64	This is a method to visualize, manage and improve costs per unit of production volume. It aims to turn fixed costs into variable costs and promotes cost management according to production volume.
RPA	P65	"Robotic Process Automation:" RPA is software robot which mimics human action to perform a sequence of transactional activities without human intervention..
ROI	P65	"Return On Investment," This is a metric used to understand the profitability of an investment. It is calculated by dividing the investment amount by the profit amount per unit period.

Reference information

- We present the Ricoh Group's policies and standards (RGS) used as reference information when creating this booklet.

Page	KF	日本語	English
4	-	リコーウェイ	Ricoh Way
5	-	2036 vision	-
9	-	HP リコーグループのサステナビリティ	HP Concept of sustainability
-	-	リコーグループ統合報告書	Ricoh Group Integrated Report
13	KF1	HP 労働安全衛生	HP Occupational Health and Safety
25	KF3	リコーグループ統合報告書2023 人的資本戦略	Integrated Report Human Capital Strategy
25	KF3	RGS リコーグループ人材マネジメント規定	RGS Ricoh Group Human Resource Management Regulations
28	KF4	HP 環境	HP Environment
28	KF4	リコーグループ統合報告書 環境	Integrated Report Environment
29	KF4	HP Three Ps Balance(JP)	HP Three Ps Balance(En)
30	KF4	HP 環境綱領	HP Ricoh Group Environmental Principles
31	KF4	HP コメットサークル	HP Comet Circle
33	KF4	RGS リコーグループ化学物質管理基本規定	RGS Ricoh Group Basic Regulations for Chemicals Management
-	KF4&5	リコーグループサーキュラーエコノミーレポート	Circular Economy Report
35、36、37	KF5	リコーグループ 企業行動規範	Code of conduct
35	KF5	HP 社会	HP Society
35	KF5	リコーグループ統合報告書2023 社会	Ricoh Group Integrated Report 2023 Social
36	KF5	HP ガバナンス	HP Governance
36	KF5	RBA WEB Site	RBA WEB Site
-	KF5	ESGデータブック	ESG Data Book
38	KF6	CS コンセプトブック2023	CS Concept book 2020
38	KF6	RGS リコーグループ品質保証規定	RGS Quality Assurance Regulations for Ricoh Group Companies
38、54	KF6、KF10	RGS リコーグループTQM規定	RGS TQM Regulations for Ricoh Group Companies
52	KF9	RGS Ricoh Group Standard 基本規定	RGS Ricoh Group Standard Basic Regulation
54	KF10	RGS リコーグループKAIZEN規定	RGS Ricoh Group KAIZEN Regulation

Notes (your values, targets & action plans)

RICOH Way Production System

July 25, 2013	First edition
August 6, 2015	Second edition
March 11, 2019	Third edition
August 20, 2020	Fourth edition
February 29, 2024	Fifth edition

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