



# Quality Control

## Realization of Globally Uniform Best Quality

Relevant SDGs



Under the global production system across 32 countries, we will challenge for improvement of quality control activities across the company to realize globally uniform best quality.

### GLOBAL MESSAGE



## Establishing a Quality Control Foundation to Withstand Environmental Changes

With the urbanization of Wuhan in China, two new plants began operating within the last three years. Product quality declined, however, as a result of rapidly increasing the production workforce over a short period. To address this, we began quality improvement activities focused on two themes. The first was to establish a quality improvement team so as to prevent repeated defects. Expert members accurately made analysis and implemented countermeasures based on the principle of “three actuals” for defects caused by multiple factors and also strived to eliminate defects. The second theme was to strengthen 3 Point Control in order to prevent defects. Since 70% of defects were caused by poor on-site management, we worked to strengthen control accuracy and expand the system by effectively utilizing the SWS training program. As a result, there have been no customer complaints for three consecutive years and the in-process defect rate has been reduced by half from the worst level. We will continue to adapt to environmental changes as a means of contributing to the safety of the automobile society.

Tian Ye / General Manager, Harness Manufacturing Division / Wuhan Sumiden Wiring Systems Co., Ltd. (WHSW) (China)

### Quality Policies

## 22VISION Make our quality No.1 in the world and obtain customers' best evaluation

- ① Strengthening manufacturing power by own process assurance activity
- ② Pursuing best quality in the world by establishing mechanism
- ③ Improving manufacturing sites' strength with ability of forestalling control and recognition

### Measures for Achieving 22VISION

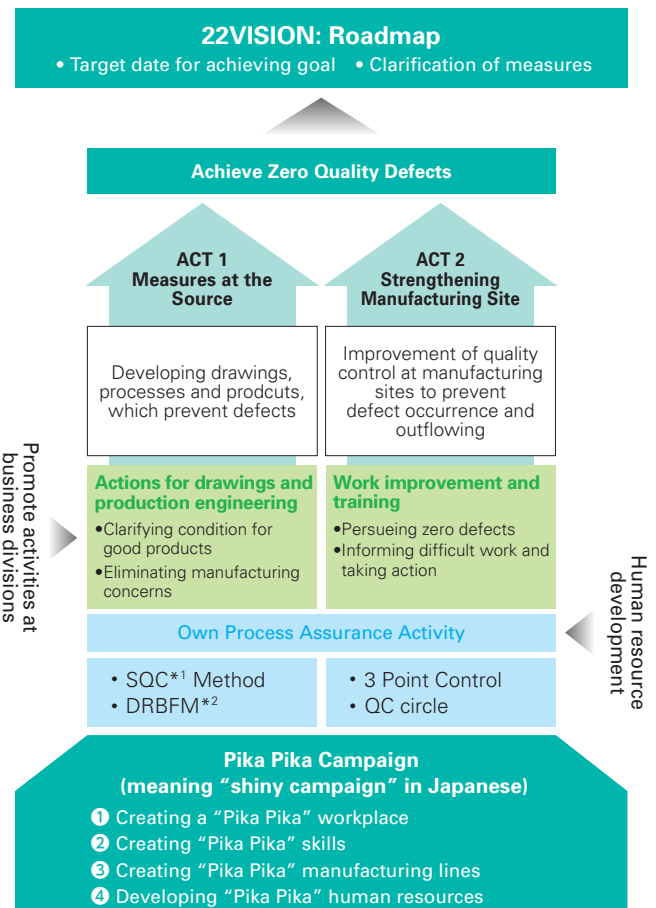
#### Deepening the Own Process Assurance Activity

The SWS Group places a high priority on actions for improving quality toward achieving zero quality defects and promotes the “Own Process Assurance Activity” as the foundation of this effort. ACT1 focuses on measures at the source while the design division creates designs without any elements that could cause a quality defect to prevent it. ACT2 strengthens the capabilities of the manufacturing site, and the production engineering division establishes equipment and processes, which do not allow defects to proceed to the next process by making processes that cannot make defects and accurate identification of them. Moreover, the manufacturing division develops and operates systems that prevent defects regardless of any change point.

To prevent defects, we thoroughly implement 3 Point Control: (1) change point control, (2) abnormality control, (3) work compliance control at manufacturing sites, and visualize them. We define design changes volume increase, and changes of people, equipment, materials, methods and so on as change points and those which may lead to defects, such as quality abnormalities of equipment or materials, and blackouts as abnormalities. As to work procedure and work compliance, we monitor each employee and seek to identify the cause of any non-compliance to improve our standards, jigs and tools, and design.

With 22VISION as well, we will continue to strive for zero quality defects by thoroughly pursuing ACT1, ACT2, and 3 Point Control.

### ► Priority Actions Related to Quality Improvement



## Human Resource Development

Most of our wire harnesses, which are our core products, are manufactured overseas. To realize “globally uniform best quality” as a company quality department under these circumstances, we will conduct practical on-site training for quality improvement at overseas manufacturing sites.

Specifically, we provide quality improvement training to the leaders of the local manufacturing and quality assurance divisions to eliminate any recurring in-process defects. At first, we conduct quality improvement training focusing on analysing factors with actual products at the actual site. After completing the training program, we aim to achieve quality targets and quality improvement through developing improvement methods at each site by following up voluntary improvement activities in which leaders take on roles of trainers.

Currently there are 25 people being trained at our sites in Europe (Morocco, Romania and Egypt). This is leading us to establishment of the foundations for quality improvement and the spread of related activities at each location.

In fiscal 2014, we started providing training programs, mainly in Europe, where product quality had at first been stagnant, and we expanded the programs to Mexico in the Americas in fiscal 2018 based on this achievement. To achieve further global expansion, we will systemize this program so that it will be applied not only in Europe and the Americas but also in China and ASEAN countries.

### Voice



#### Improving Quality by Developing and Continuing Improvement Activities

**William Ocampo**  
General Supervisor  
Quality Assurance Department  
Sumitomo Electric Wiring Systems, Inc. (SEWS)  
(Mexico)

Joining improvement activity in small groups in accordance with SWS methods dramatically expanded my knowledge. I believe that the participation of various departments also helped our company as a whole to raise quality awareness and acquire improvement skills to investigate causes and to solve problems.

While we expect the impact of this activity to keep spreading as it is implemented throughout the company, we also think that the key objective is to decrease the quality cost and improve customer satisfaction by reducing defects.



On-site quality improvement training

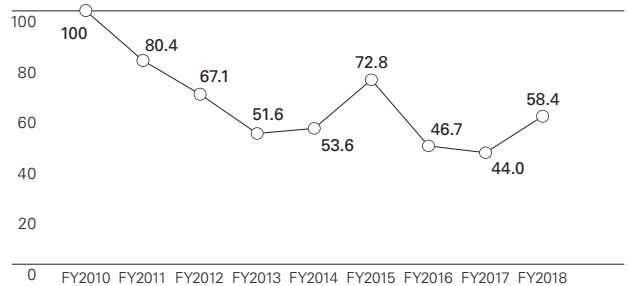


Quality improvement class

## Special Quality Improvement Activity

The SWS Group strives to improve customer satisfaction. In fiscal 2018, the number of complaints we received has been increased, mainly because quality at sites outside Japan got worse, due to the higher number of new orders and product switching. While we promote improvements of sites with stagnant quality, which is a priority quality action of 22VISION, we will launch a quality project with overseas plants and promptly incorporate improvement measures in accordance with the on-site instructions. We also have quality meetings for each region and customer and clarify who is in charge to strengthen forestalling control. In addition, we will continue efforts to improve our quality control system to ensure there are no delays or deficiencies when preparing for the production of new products.

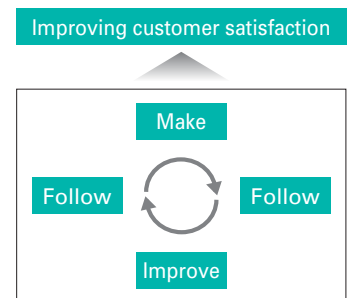
▶ Number of Complaints (Indexing the Base Year of Fiscal 2010 as 100)



## Priority Quality Actions in Fiscal 2019

We will continue to implement a variety of actions in fiscal 2019 that emphasize quality assurance under our quality code of conduct; thoroughly controlling the quality in own processes to secure the safety for both drivers and pedestrians and guarantee the safety of motorized society.

We will realize zero quality defects and strive to improve customer satisfaction by thoroughly implementing our action guidelines of “Make / Follow / Improve / Follow the rules.” This involves thoroughly implementing ACT1 measures at the source to create drawings without factors of defects, ACT2 for preventing the occurrence of defects at the manufacturing site, and investigating root causes while following the drawings based on 3 Point Control.



## Evaluation from Customers

Over the years we have consistently sought to provide high-quality products that earn customer trust. This has resulted in the high regard of our customers around the world, and we received 44 awards in 12 countries in fiscal 2018. We will remain committed to delivering products that consistently earn the trust of customers.

### Glossary

\*1 Statistical Quality Control

\*2 Design Review Based on Failure Modes is used to prevent problems before they happen by learning from failures.

### Pika Pika Campaign for Achieving Globally Uniform Best Quality

To achieve Globally Uniform Best Quality with the highest product appeal, we promote our Pika Pika Campaign, which is fairly self-explanatory for our employees. The campaign represents our basic manufacturing principle, developed based on the idea that creating a Pika Pika (shiny) mind, actions, skills, equipment, and worksites leads to Pika Pika products. The campaign is composed of four elements: PK evaluation, G-STARS\*1, human resource development, and HAI-Q\*2 activities for quality improvement, leveraged by the other three elements, to achieve zero defects.

Our annual PK evaluation involves having those in charge of quality at headquarters visit all our overseas plants and checking and evaluating each manufacturing process with local employees over a three-day period. It is intended to accelerate improvements at each plant by clarifying weak points.

Over 1,500 items are used for evaluation, which is revised every year. In fiscal 2015, the evaluation, initially based on an overall score system, was revised and improved so that it would assess the degree of achievement in safety (S), quality (Q), and productivity (P).

G-STARS is a standardized set of basic skills required by all employees as well as special skills needed for each work process. We annually hold the Skills Competition to increase employee motivation as a means of further developing their skills, and outstanding operators from around the world gather to compete in their respective areas of expertise.

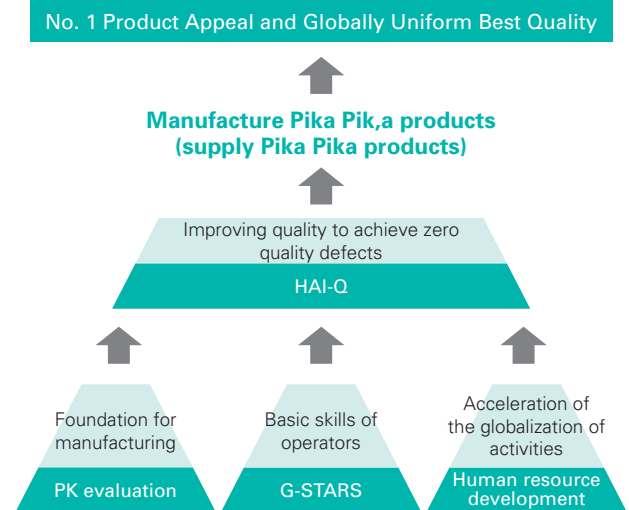
As part of our human resource development efforts, we are working to develop master trainers who train the leaders of each plant in line with the characteristics of each country. HAI-Q, an initiative to achieve zero defects within all our processes, involves stopping a production line each time a defect occurs in order to identify its cause.

Through these efforts, we promote the Pika Pika Campaign every day to ensure that employees are always working to their full potential.

#### Glossary

- \*1 Global Skill Training and Recognition System
- \*2 Harness Innovation Quality

#### Basic Concept of the Pika Pika Campaign



#### G-STARS Conducted at Our Overseas Plant



#### Skills Competition Contestants in Wire Harness Division



Assembly Division



Appearance Inspection Division



Cutting Pressure Self-inspection Division



Processing Maintenance Division



Wire Harness Division contestants at the Skills Competition