### Interview 1

#### Interview with Isao Kikuchi, CEO, Kikuchi Seisakusho, Co. Ltd.

## Workmanship in Japan Restoring Tohoku Region & Vitalizing an Aging Society

By Japan SPOTLIGHT

Mr. Ke Long, one of our editorial committee members and a distinguished expert on the Chinese economy, is also a thoughtful observer and thinker on Japanese business and economy. He recommended that we speak with Mr. Isao Kikuchi, CEO of Kikuchi Seisakusho Co. Ltd, a company that provides technical support to help large producers in high-technology industries become engaged more earnestly in the manufacturing process of their products. One of their trial items is a care robot, an invention that could help develop a new horizon in our aging society. He is also from litate village, one of the places in Fukushima closest to the Daiichi Nuclear Power Station, where a large number of the residents are still living as evacuees in other parts of Japan. One of his factories in litate continues to operate and he recently started a new factory nearby in Minamisoma city. I believe his company and his vision are typical of Japanese workmanship. Our interview with Mr. Kikuchi follows.

#### **Personal History**

JS: Your company is now producing care robots, a potentially key technology in Japan's aging society, and you have also made a great contribution to the restoration of the Tohoku region since the 2011 earthquake and tsunami through job creation at your factories in Fukushima. You also have factories in South Korea and China. countries with which Japan's relations are drawing much global attention. Could you tell us about the history of your company, as well as about yourself?

**Kikuchi:** Yes, of course. I am from litate village in Fukushima Prefecture. After

graduating from junior high school, I came to Tokyo and started learning about manufacturing. This was in the 1960s when Japan enjoyed high economic growth. I got a job for the first time at a company which was founded by the president having spun off from a large camera-producing company. That was a venture company and the president himself looked for applicants for jobs in the company through a public employment security office, and eventually hired four workers, including myself, all from litate. That was his company's first recruitment. Looking back on this now, I think it was very risky for him to employ these four young men who did not know anything about work. But in working for this company for about 10 years I learned a lot about the manufacturing business. It was a common practice at the time for a workman to start his own business independently after having mastered business knowhow, so accordingly I left his company at the age of 24 or 25 and started a company together with my wife. Incidentally, all four of us who came to Tokyo from litate at the same time and started working at that company are now running our own companies in certain businesses.

#### JS: In the light of your working experience, what do you think about young people today? I think they should have an ambition, as you did.

**Kikuchi:** I think young people are essentially the same now as they were

then, but their working environment has changed their way of thinking and behavior. For example, when you master business knowhow and try to start a business on your own, the amount of money you need now is much bigger than in our day. In our time, our skill and a small production facility would enable us to start a business by ourselves, since our work then did not have to meet high-level demands from customers about quality or completeness. Today, in order to meet such customer needs on quality, they would need at least a facility for Numerical Control (NC) assembly. Therefore, they would need a large sum of capital to buy or create one.

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Isao Kikuchi, CEO, Kikuchi Seisakusho, Co. Ltd.

#### JS: I think Japanese workmanship must have been greatly influenced by Confucianism. Do you think such a spiritual backbone to workmanship has been disappearing?

**Kikuchi:** Well, it may be that historical backgrounds have some effect on human nature. But I believe, as I said, that the business environment should be the key to change a human being's motivation to work. It is human instinct that encourages us to attempt to adjust ourselves to the external environment. I don't think any philosophy or religion is able to change it.

Our company has factories in Japan, South Korea and China. Yes, certainly, each nation has its own way of thinking and doing business. This is my impression from my working experience. I would say that Japanese could be compared to clay – you cannot see each grain, but you can see its shape remain in your hands if you seize it and then release it. Koreans and Chinese could be compared to sand – you can see each grain perfectly, but after seizing and releasing it you cannot keep any shape remaining in your hands; each grain would be scattered.

Thus, you can see competent workmen individually among the Chinese or Korean people, but as a team their work may be less noticeable. Japanese workmen may not be so competent individually as a Chinese or Korean one, but as a team they would create something distinguished in our manufacturing industry. Another way of expressing this might be to say that while Japanese tend to make stone steps by looking down, Koreans and Chinese tend to make them by looking up. In other words, Japanese produce things step by step by making a solid base, and piling up each new step on this robust base. It takes time to complete something, but once it is completed it will not collapse easily. If workers are always absorbed by the thought of building up anything rapidly, it could easily collapse if the base is fragile.

This Japanese way of thinking may be a product of the national environment or lifestyle, especially considering how Japan is often afflicted by natural disasters.

#### **Kikuchi Seisakusho's Operations**

#### JS: What is your company's main operation?

**Kikuchi:** Our main operation is new product development by producing trial pieces in the high-technology industry, such as automobile components, cell phones, cameras, etc. We are helping large companies to develop new components. In the Japanese manufacturing industry, production of trial pieces of parts and components or molds is generally done independently by companies specializing in those things. These companies are also diversified and their specialties range from metals, plastics and films to many other materials. Our company has the capacity to do all kinds of assembly, such as mold production, metal assembly and plastic molding. That is our sales point. We can even develop software in our company for our pieces, such as a muscle-training machine that needs a system control, and if necessary we collaborate with software companies to do it.

## JS: It is a great advantage that you can do such a variety of assembling in a single company.

**Kikuchi:** Yes, it is. However, it is not necessarily the most costeffective way of running a company, since you have to buy many production facilities as well as spend more money on raising skillful human resources in order to achieve it. Concentration on certain goods would be much more cost effective than my way of business. Our company has happened to focus on a wide variety of the needs of our client producers since its foundation and then seemed to pursue the most difficult way of doing business.

But one difficulty about the other way – concentration on certain goods – would be in integrating all the pieces for a particular process or assembling method if each piece comes from a different company. Our company, with all its technologies, can advise our clients on how to integrate them appropriately by recommending the easiest method to assemble an item, or telling them how they can improve the quality of their goods in the integration process, or minimize possible problems when they put the product on the market. Between our clients and ourselves such collaboration works well.

Our factories are equipped with a variety of the tools and production facilities necessary for all kinds of manufacturing, such as metal injection, hot chamber, and die casting. It is rare for any single company to be equipped with such a variety of tools and facilities.

## JS: Is it difficult to get sufficient human resources for your work?

**Kikuchi:** Yes. We consider raising "artisans" as key to achieving business success. Artisans' skill and workmanship will determine the future of our company.

#### JS: So you will need these skilled artisans to continue to work for your company. But might there be cases where they move to another company, attracted by possible offers of better working conditions?

**Kikuchi:** Yes. We keep a factory in litate to retain our skilled employees in our company for as long as possible, since I believe our possible contribution to the restoration of litate would maintain our employees' motivation to work for our company. I hope this will trigger an overall restoration of local economies in Japan.

In the past, large Japanese companies constructed their factories in regional locations to take advantage of human resources there. These factories were founded with low technologies and non-skilled laborers could work there well. This low-cost manufacturing process is nowadays transferred overseas under globalization to take full advantage of cheap labor costs in developing nations. Thus local economies in Japan have been deindustrialized. In our case, building a factory in a region like litate in Fukushima is aimed at preserving skilled workers by enhancing their incentive to continue to work for our company and thus our technology capacity will be maintained for the interest of the local economy.

## JS: So preserving the technological capacity of the local economy will eventually lead to job creation for young people there?

**Kikuchi:** Yes. I don't know how much our company could contribute to job creation in the local economy. However, I believe that a factory equipped with high-technology production facilities producing highvalue added goods will create job opportunities for high-skilled workers. We will need to develop such high-skilled human resources to work there. Any country can buy expensive facilities, if it has money. But you cannot buy the craftsmanship that a skilled Japanese worker has. As long as we Japanese can maintain such a high-level instinct for workmanship in our local economies, I believe they will be activated again.

## Will Care Robots Become a Leading Industry?

JS: Do you believe that as the aging of society continues, the market for care robots, like the muscle suits you are producing now as trial pieces, will expand and thus create more job opportunities? **Kikuchi:** Yes, I think robots will revolutionize the manufacturing industry. The assembling technology that Japanese small and medium-sized enterprises (SMEs) have is a good fit for robot manufacturing.

Japanese mold-producing companies are producing better molds than South Korea, Taiwan and China. They can produce molds that last a long time and that produce many items. This is a result of the craftsmanship deeply rooted in Japanese culture, of the talent for achieving completeness with patience step by step. The technology used for molds is what we call optimizing technology. Japanese manufacturing SMEs have been very good at this technology because of this unique craftsmanship. Producing care robots will need exactly this optimizing technology.

A muscle suit attached to a human body will need very elaborate fine-tuning to each individual user's physical condition. What kind of rehabilitation program each user has or what kind of caregiving service they need should affect the fine-tuning process on the side of producers. Japanese craftsmanship, in using this optimizing technology, will be extremely useful for this fine-tuning.

Prime Minister Shinzo Abe announced at the OECD Ministerial Meeting in May 2013 that Japan would trigger a new industrial revolution by robots, and in 2014 the Japanese government started a "Conference to Realize a Robot Revolution" of which our company was a member. I believe this is an attempt to make robotics Japan's leading industry. I am very happy to see the robotics industry in which Japanese SMEs' technological strength would be fully exploited selected as our leading industry. I also believe that development of the robotics industry in Japan could contribute greatly to the global economy. For example, we could mitigate a possible labor force shortage in China, where until recently they had promoted a one-child policy.



A JS staffer tries on the muscle suit (left), and quickly finds it gives her tremendous power.

#### JS: Your company collaborates closely with universities. How have you made such alliances?

**Kikuchi:** About 15 years ago, I was introduced to Dr. Ken Ichiryu at the Tokyo University of Technology. He used to work for the research institute of Hitachi Co. Ltd and then became a professor at this university. He understood very well the interests of both academia and business. After his retirement from the university, I invited him to be our vice president, thinking he would be a good mediator between the two. Currently he is working on business-university collaboration projects in our research institute. In addition, we have 50-60 Tokyo University of Technology graduates among our employees. All of them are engaged in the manufacturing process, including the research for it. Thanks to Dr. Ichiryu's efforts, we are now engaged in collaboration with many universities on about 10 projects.

#### Contributing to the Restoration of the Tohoku Region

#### JS: Your robot factories in Tohoku will create job opportunities there. Will the robotics industry attract other industries and create jobs for them as well?

**Kikuchi:** No. The robotics industry will not attract affiliated industries as much as the automobile industry does, for example. We would not use so many parts and components. However, I think this is the best industry for SMEs. You can produce a robot by using one-tenth or one-twentieth of the parts and components used by an automobile. SMEs could produce them by collaborating with each other. They could even start business overseas with the patents of their products or technology. In this sense, I think robotics will be the first business in which SMEs can play a major role in production.

#### JS: For the restoration of the Tohoku region, there seem to be many ideas and proposals coming up, such as wind power generation. I would like to think that Tohoku could lead an overall revitalization of local Japanese economies. What is your view of such a prospect?

**Kikuchi:** As a private company, we cannot have a clear prospect on the restoration of Tohoku, but I can tell you the following. When our factories in Fukushima were hit by the disaster in 2011, I could not make a decision on whether to continue our operations at our factories by myself. It was our employees working at those factories who made the decision to continue even under the continuing nuclear power station crisis. They got the necessary information about possible radioactive contamination in their areas and judged there would be little impact on their health. Thanks to their decision, I could keep those factories as they were. Respecting their decision, I thought that we should do our best to help the residents remaining there and the refugees who badly want to return to their home towns. While the government does its best to achieve restoration, we should also do our best as a private company.

# JS: In Tohoku now, collaboration between the government and the private sector or NGOs seems to be working well for the purpose of regional restoration. Do you think so too?

**Kikuchi:** Yes, it is. The national government and the local governments understand very well the need for collaboration

between the governments and private companies for the purpose of regional restoration. We were pursuing such collaboration in promoting our robot business, but did not do very well before the disaster. Now I think we are being successful in achieving unity between the governments and the private sector on promoting restoration in Tohoku.

#### JS: Do you think restoration is progressing in a good alliance among the national government, local governments and the private sector as well as the residents?

**Kikuchi:** Yes, I think so. Our restoration of Tohoku is progressing by taking account of all the people in the disaster-hit communities. It may take time for full recovery, since they listen to all views and try to reflect them in the restoration process. It may be true that we could achieve early restoration initiated only by government policy, but local governments are now trying to consider all viewpoints on how to restore the region, ranging from elderly residents to elementary school students. I do not think any other country would do this. It may take a long time to achieve a complete restoration. However, once we achieve it, the outcome will be extremely solid and maintained for a long time. For the refugees, they would prefer restoration as rapidly as possible. But in my view, I hope we can achieve a consolidated and perfect restoration, even though it takes time, so that we would not regret the outcome.

## JS: Finally, could you tell us about your future business plans?

**Kikuchi:** Yes. Recently, we have been focusing on a project to create a "university park" in Minamisoma in Fukushima. We would like to build up a core production facility for robots, which must be considered a trigger for the restoration of local economies overall. We have got agreement to join this project from the University of Tokyo, Chiba University, Waseda University, and Osaka University, with which we have been doing joint research. In addition, we are asking universities in Tohoku as well to join it. University professors may have a chance to see each other and work together at academic conferences, but students can rarely work together. Considering this, we are setting up a venue for collaborative work between students from many universities in our open laboratory at this "university park".

This is what I truly want to realize soon, and in the future I would like to invite universities from abroad to enter this park.

Written with the cooperation of Naoko Sakai who works for the NPO Yokohama Community Design Lab and is also a Hama-link Project leader and writer of the Yokohama Keizai Shimbun.