THE WONDER STONES

The story of Akira Murata, the founder of Murata Manufacturing
You may not have seen any of our products, but you’ll be amazed by how many of them you are surrounded by every day. In computers and smartphones, for example.

Murata is a manufacturer of electronic components.
Murata Manufacturing began as a small factory making ceramic ware.

Amazing!

Nothing to do with electronic components, right?

Wait a minute...

Aren’t ceramics just bowls and plates, and stuff?

But, actually...

I thought so too, at first.

I know.
Everything is connected to the wonder stones.
Akira Murata, the founder of Murata Manufacturing, at the age of 18, started to help the family business, Murata Seito-jo, a manufacturer of ceramic ware for electrical appliances.

In 1939

I’ll work really hard and expand the business!

This company was producing ceramic insulators to work between electrical wiring and supporting materials.

Akira watched and learned from the company employees as they did their work.

Ah, hmm...

Akira had a single passion.
He spent the many days while under treatment reading book after book.

Akira was often sick as a boy, and from the ages of 13 to 18 years old, he was not able to go to school.

I don’t think it’s right for me to be the only one to eat good food like this.

My family is having a hard time because of me.

The neighbors want to shun us because they say there is a child with lung disease here.

I’m not worthy.

Akira!

I shouldn’t be here.
OK.

Akira,
don’t worry about anything.

You just have to think about getting better.
All right?

......

But, to do that, we can’t just keep making ceramics alone!!

Now that I’m healthy enough to work like the others. It’s my turn to help my family now.

What’s the matter, Akira?

Dad!

sliding door opens with a thump
There’s no future in remaining such a small business.

We should increase the number of clients.

What are you talking about?

We can’t just steal clients away from other people in the business!

Akira didn’t expect that his usually calm father would get so angry.

But his words left a mark on Akira.

If we do, we would have to sell our products more cheaply.

Not only will our competitors suffer greatly, but we will also lose out on profits.
I understand what Dad is saying, but is there another way for us?

This could be it...

Special ceramic products...?
Dad!

sliding door opens with a thump

According to this, it has huge potential for use in many new things.

I found this in the bookstore! Apparently, there is something called “ceramic ware for chemistry.”

We can do things that others have never done before, right?

Yeah ...

I’ll do it!

This was the beginning of Murata’s belief in creating unprecedented original products.

Why don’t you give it a try and see how it goes.

Fair enough.
When we heat the apparatus with a burner, it cracks.

Akira rushed to a research institute in Kyoto to learn about special ceramics production.

There, he found out that there were certain problems involved with the experimental apparatus being used.

Please take a look.

A few days later

I see...

Could you leave this with me?

Me too!

I want this for our company!

Excellent! This is great!

This is a drum-type muffle furnace!
Akira’s father, Kichiro, passed away due to stomach cancer in 1941, at the age of 47.

Akira started the business with a strict policy of originality as a priority, but just as it was getting on track...

I didn’t expect to be so appreciated by offering help with new and original technology.

I have to take care of them.

My sister is 13. My brothers are 9 and 8.

He was young and inexperienced, but many people in business supported him because of the great reputation his father had earned.

Akira took over the factory when he was just 20 years old.
a great opportunity presented itself to Akira.

As the war continued,

We need to develop our own original technology.

I know how to make it in theory...

Steatite is a high-frequency insulator.

Do you think your company can do it?

These air raids may divide our country into east and west.

Nobody in the Kansai area is making steatite for radios.

I must do it!

In 1944, Akira established a small factory to develop steatite, and named it Murata Manufacturing.

This was the start of the whole enterprise.
However, he was confronted by a harsh reality.

Akira threw himself into the development of steatite, even building a factory to produce it.

What ...

It was taking so long we had another company make it.

Oh, steatite ...

Instead, is it possible you can make titanium capacitors?

clenches his fist in frustration

It’s not great, but I can’t just give up!

No way...
Absolutely! We’d be happy to do that!

We just have to take any orders we can get.

These are not like conventional insulators, but part of an electronic component.

Titanium-oxide ceramic capacitors

I believe this capacitor will help to enrich people’s lives!

Electricity will very likely become more and more important and indispensable to our lives.

These wonder stones can store electricity.
Many times Akira visited a neighbor, Mr. Nobuatsu Senda, the manager of the ceramics division of Kyoto City Ceramic Research Institute, to receive advice on his new endeavor.

by soldering with wire lead...

The basic manufacturing method is not much different from that of conventional insulators.

First, attach silver electrodes,

Hmm, I see...

How about adding a small amount of clay to the ceramics that contain titanium-oxide?

Silver firing is almost the same process as glazing pottery, so there shouldn’t be a problem.

Next, sales!!

I did it!

Conducting repeated experiments over a few months...
I don’t believe you did this.

No way.

However...

Moreover,

you are too small-time for this.

Even our top engineers haven’t been successful in making titanium-oxide ceramic capacitors.

......

You are the engineering manager, right?

Mr. Murata!

sigh...
I can place an order secretly.

About the titanium capacitors ...

Oh my...

......

Murata Manufacturing, a small local factory, was the first to successfully do so.

Thank you very much!!

The development of titanium-oxide ceramic capacitors had not been achieved, up to that point, even by the top manufacturers.
The company’s success was attributed to the development of its own original technology based on that of the ceramics it had always employed.

Murata’s titanium capacitors sold like hot cakes.

We’ll keep on making them!!

Eventually, the war ended, and radio became a huge hit following the privatization of radio broadcasting.

Sure. What can I do for you?

Then, came the phone call.

Mr. Murata, I’d like to ask you something.
I want to make flashing lights for Christmas trees.

It was Tetsuro Tanaka, an assistant professor in the electric laboratories in the Faculty of Engineering of Kyoto University.

Thank you.

Absolutely!! You can count on me!

Do you think you can make insulators for them?

See you soon.

It’s amazing that a Kyoto University professor like him has to be concerned about the welfare of his students.

What can I do to help?

It would be pity if he couldn’t focus on his research because of it.
My pleasure.

If there is anything we can do to help, such as making samples, please let me know.

A few days later

Thank you.

Do you know this book?

grinning

Gläserne Wunder
This is... the book I borrowed from Professor Tanaka.

Hi dear, what are you reading?

and went on to establish the top manufacturing company of optical instruments in the world.

"Gläserne Wunder (the wonder of glass)" was about Carl Zeiss, who ran a small lens factory in Germany. He met Professor Abbe, a researcher of lenses at the University of Jena.

......

thinks hard

Right!
I'm going to be the Carl Zeiss of Japan!!

What happened?

dashes out

Murata will be the next!

A collaboration between a small factory and a university led to the establishment of one of the most successful companies in the world.

Mr. President?
Professor Tanaka!!

Of course!

Could you help us in the same way as the story in this book?

Let’s team up!

This joint project turned out to be a really great success,

becoming a major turning point in the future of Murata Manufacturing.
Professor Tanaka had started research into this chemical compound.

Yes.

Barium titanate?

The dielectric constant of titanium-oxide capacitors is 70 to 100.

But that of barium titanate is 1,000 to 10,000.

Barium titanate is great!

Great!

Let’s work together to commercialize this property.

First, I’ll try to procure good quality materials.

This cooperation gave them success in developing the ceramic capacitors which would become one of Murata’s core products.

At that time, as the collaborative effort between Murata Manufacturing and Tanaka’s team was coming together, many other companies in the world were competing to commercialize barium titanate.
In 1950

Hello.

Oh!

Mr. Senda!

It took a whole day to get there.

I am now the director of a ceramic laboratory in Fukui Prefecture.

Could you come and see me here?

Sure!

There was a phone call from Mr. Senda, who had once helped Akira at the ceramic research institute in Kyoto.

Nothing ...

We’ve discovered that this place has wonderful reserves of high-quality pottery stone.

There’s nothing here...
From this point on, Murata continued to expand, opening factories in the Hokuriku and Sanin regions.

It was completely unexpected, but as the Kyoto factory had already become too small for Murata’s business, the Fukui factory was established in Miyazaki Village, Fukui Prefecture.

Under the belief that factories could bring joy and pride to neglected regions, Murata continued their endeavors with the support of the local people.

At that time, there were no concepts like regional revitalization and inviting companies to open factories in rural areas.

In 1954, Murata’s corporate philosophy was established, reflecting the steps it had taken thus far.
“We contribute to the advancement of society”

“by enhancing technologies and skills, applying scientific approach,”

“We can do things that others have never done before, right?”

“creating innovative products and solutions, being trustworthy*”

“and, together with all our stakeholders, thankful for the increase in prosperity.”

*This part added in 1979.
Following a number of experiments, it was discovered that it could be processed into a wonder stone that was able to store electricity.

Moreover, it became indispensable in supporting the electronics industry.

Later, in the 21st century.

At first, it was just fired stone that did not conduct electricity.

I want to keep trying for further success with this wonder stone!!
In 2006, Akira Murata passed away at the age of 84.

His spirit has been passed down to the next generation.

Hey, listen to this.
Did you know Murata Manufacturing started as a small local factory making ceramic ware?

Really? Ceramic ware, like bowls and plates?

Is it really true?

hoping everyone in the world can live happy and joyful lives.

As we have in the past, Murata continues to pursue possibilities in technology...