

SCHIPPERS & Crew, Inc.

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E L E C T R O N I C S M A N U F A C T U R I N G S E R V I C E S

China: Ready to Deal Straight?

A cheap price is only a good deal if you can actually trust the product you're getting. There's more involved than just the final pricing.

The last decade has seen a huge transfer of labor-intensive production from the US to less expensive countries like mainland China; and along with that we've seen increasing media attention to the downfalls of trusting an unproven country. Perhaps the communist nation is just not up to the same standards of business conduct as the Western world, or is it that maybe recent trade has exposed a deep-seated culture of dishonesty?

Of course we've seen the changes in the electronics industry over the last decade on the local level. Larger manufacturers have closed up or moved operations overseas. Smaller manufacturers like us have actually picked up some of the extra business left behind by this migration, but it continues to be competitive locally.

Certainly some electronics products are suited for mass production by inexpensive labor. They are simple assemblies that don't provide critical operations such as life support or military. General consumer goods with components cheaper to throw away than to repair on price alone.

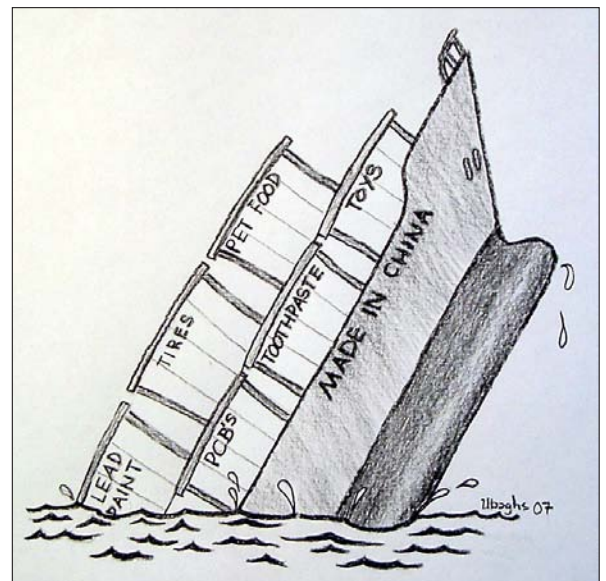
The average Chinese manufacturing worker earns \$40 per week plus room and board. Compare that to Washington State's \$7.96 per hour minimum wage and it is impossible for us to compete.

We've heard stories from our customers that have caused them to regret their decision to outsource manufacturing operations to China: One customer was surprised to see his exact design being marketed under a different label within 6 months of manufacturing. Another fell prey to counterfeit Maxim chips, where the logo had been painted on over the other chip maker's name.

One customer had an expensive repair: we had to perform the labor-intensive job of removing a conformal coating that had been sloppily applied to a huge batch of PCBs, covering the switch pads and making the boards unusable. Once the boards arrived in the US, customer service from China was difficult if not impossible. Rejection adds weeks if not months to a delivery schedule. And it means communicating problems to someone that speaks another language and works an opposite shift schedule from most of us.

Even a leading computer manufacturer has had trouble with Chinese manufacturing. In the recent past they had to scrap \$10 million worth of shoddy PCB assemblies.

Taking a look at other Chinese exports the scene is not much prettier: from pet food to toothpaste and children's toys, recent news stories have pointed to the fact that some companies in China are dangerously lacking in good manufacturing practices. If you are in the market for electronics manufacturing, the safe solution is to work with a domestic EMS provider like Schippers & Crew - reliable, accountable and within quick reach.



X-Ray Inspection Services

Real time x-ray inspection provides a non-destructive technique to analyze complex structures of varying densities. Internal inspection of a sample can be performed with submicron defect recognition at the highest magnification (5450X) and 2 mpixel resolution. Samples can be viewed from a 0 – 70 degree angle, 360 degrees around any position over the entire inspection area.

Next Day Inspection Results:

Ship your product overnight and get test results the following day.

- PCB assemblies
- BGA and uBGA solder inspection
- Multi-layer PCBs
- Flex circuit and flip chip
- Lead-free process control
- Wire bonding in semi-conductors

Our state-of-the-art x-ray inspection system takes the guesswork out of process control with features that include Windows XP based software and collision free sample movement, thereby eliminating any chance of operator error. Our system utilizes digital imaging so if



instant feedback is required, we can email the results directly to your in-box. If not, a CD of captured images will be sent to you with the return of your sample.

Quick turn BGA rework service:

Your circuit boards can be reworked, x-ray inspected and shipped within 24 hours of receipt.

System inspection can provide:

- Percent of Die Attachment
- Voiding
- Solder Sphere Formation
- Solder Ball Diameter Measurement
- Micro Cracks

System Capabilities:

- State of the Art Image Inspection
- Submicron spot size
- Automatic void identification and measurement software
- System magnification up to 5450X
- 2 Mpixel Digital Imaging in multiple formats
- Oblique angle view 0 – 70 degrees
- Inspection area 18" X 16"

For more information and a demonstration of our DAGE XD7600 X-Ray System, contact Paul at (206) 782-2325 or paul@schippers.com

Pet Diary

THE DOG'S DIARY:

- 8:00 am - Dog food! My favorite thing!
- 9:30 am - A car ride! My favorite thing!
- 9:40 am - A walk in the park! My favorite thing!
- 10:30 am - Got rubbed and petted! My favorite thing!
- 12:00 pm - Milk bones! My favorite thing!
- 1:00 pm - Played in the yard! My favorite thing!
- 3:00 pm - Wagged my tail! My favorite thing!
- 5:00 pm - Dinner! My favorite thing!
- 7:00 pm - Got to play ball! My favorite thing!
- 8:00 pm - Wow! Watched TV with the people!
My favorite thing!
- 11:00 pm - Sleeping on the bed!
My favorite thing!

THE CAT'S DIARY:

Day 983 of my captivity

My captors continue to taunt me with bizarre little dangling objects. They dine lavishly on fresh meat, while the other inmates and I are fed hash or some sort of dry nuggets. Although I make my contempt for the rations perfectly clear, I nevertheless must eat something in order to keep up my strength.

The only thing that keeps me going is my dream of escape. In an attempt to disgust them, I once again vomited on the carpet. Today I decapitated a mouse and dropped its headless body at their feet. I had hoped this would strike fear into their hearts, since it clearly demonstrates my capabilities. However, they merely make condescending

The Euromyth

In America we complain about the government when it tries to raise taxes or strengthen the zoning code. We wouldn't even dream about the government going so far as to regulate the diet of truck drivers or the shape of bananas. But over in Europe, the European Council has done just that, or at least the media would want us to believe that.

We've had our own run-ins with the EC with RoHS and WEEE regulations stretching all around the globe. And it's true that the EC tried to impose a speed limit on the famously unregulated German autobahn. In fact, the EC outlawed certain traditional schoolyard games in Britain (Kiss Chase and Conkers—a centuries-old kids game involving horse chestnuts.) But would they really try to impose regulations restricting the curvature of imported bananas?

Also known as "Euromyths," these stories are reported by the media and denied by the government. The media explains by saying that their stories are true but that their prompt reporting sent these bad ideas to an early grave.

Here's a sampling of Euromyths reported by media outlets:

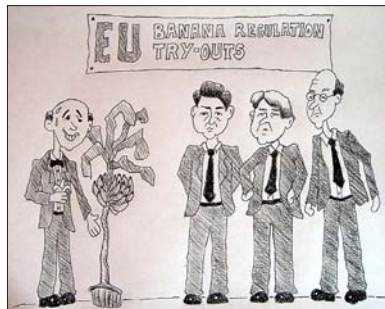
Truck Drivers to Eat Muesli

Media claims:

Australian and New Zealand newspapers reported that truck drivers were going to be forced by the EU to stop eating fried foods in favor of Muesli and croissants.

Government responds:

In truth, the EU was only planning guidelines for truck drivers which were focused on health and safety issues such as diet,



EU goes bananas

but mainly to enforce driver training with attention to proper rest and responsible driving. There was no mention of having to eat Muesli and croissants.

Hard Hats for Tightrope Walkers

Media claims:

New regulation will force Circus performers to walk tightrope in hard hat. One tight-rope walker says that his career has been placed in jeopardy by legislation originating in Brussels which dictates that he must wear a hard hat to perform.

Government responds:

Although it is true that new EU laws have been introduced to protect workers who operate at such heights, there is no mention of hard hats or circus performers in these rules. Any newspapers, employers or insurers who are interpreting the legislation in such a manner are acting mistakenly.

Straight Rhubarb

Media claims:

Crackpot Euro chiefs have decreed British rhubarb must be straight. Farmers will have to throw away crooked stalks under barmy new rules. The order follows a review of community fruit and vegetable standards by the EU agricultural directorate.

Government responds:

The fact is the European Union has never planned to set, or recommend, any such marketing rules for rhubarb but it did set out rating standards for fruit and vegetables.

comments about what a "good little hunter" I am.

There was some sort of assembly of their accomplices tonight. I was placed in solitary confinement for the duration of the event. However, I could hear the noises and smell the food. I overheard that my confinement was due to the power of "allergies". I must learn what this means, and how to use it to my advantage.

Today I was almost successful in an attempt to assassinate one of my tormentors by weaving around his feet as he was walking. I must try this again tomorrow, but at the top of the stairs.

I am convinced that the other prisoners here are flunkies and snitches. The dog receives special privileges. He

is regularly released, and seems to be more than willing to return. He is obviously retarded. The bird must be an informant. I observe him communicate with the guards regularly. I am certain that he reports my every move. My captors have arranged protective custody for him in an elevated cell, so he is safe, for now...



SCHIPPERS
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AeA
Advancing the Business of Technology

IPC MEMBER
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ELECTRONICS INDUSTRIES®

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THE EUROMYTH

...what is it?

▶ ▶ ▶ **SEE INSIDE!**

