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China closer to First World standards in defense electronics

By Reuben F. Johnson

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BEIJING | China revealed during a recent defense industry show that its defense electronics are rapidly advancing to First World military standards.

The communist regime's defense electronics prowess was on display at the recent China Defense Electronics Exposition (CIDEX) in Beijing from May 12 to 14.

"The type of components I am seeing in China are not readily available anywhere — except maybe in the U.S.," said a Ukrainian defense electronics specialist who attended the show.

"If I go to a European supplier looking for similar products, they will probably tell me that they are just not in series production yet — maybe in six months or more they might be," he said.

"The best I might hope for is to be given one or two 'working models' that I could only use for development and design work, but nothing I could use to turn out a final, manufactured product for a customer," the Ukrainian specialist said. "But here in China, I can buy as many of these as I need — and usually at a lower price."

China is well-known as a powerhouse production center for some of the latest in American-designed electronic innovation. Apple's iPhone is made in China, and production of such foreign goods has led some to assume that Chinese industry is limited to building others' products and unable to develop comparable technological marvels of its own.

An example is the recently pirated Chinese copy of the iPhone — a poorly designed gadget that costs the equivalent of \$240, does not really work and eventually gives those trying to use it the urge to throw it out.

The knockoffs market reinforced the misconception that all the Chinese can produce is junk electronics and led some U.S. analysts to dismiss China's rapid military buildup as little more than a junkyard army unable to compete with modern militaries.

But Chinese defense technology on display at CIDEX appears to be anything but junk, and Beijing shows few limits on the resources devoted to its defense-industrial sector.

Despite the absence of several traditional exhibitors this year, CIDEX 2010 was three times as large as the last show in 2008.

Additionally, the number of high-tech firms from regional industrial cities such as Shenzhen, near Hong Kong, is growing and advertising "one-stop shopping" for weapons builders.

One Shenzhen-based firm presented a "soldier of the future," portable, high-speed, secure video-transmission network. The system allows an infantryman in the field to send digitally transmitted images of the battlefield in real time to a regional command center or intelligence headquarters unit.

China also is advancing with its own precision-guided munitions (PGM), like the Boeing Joint Direct Attack Munition (JDAM), which was long a weapon that provided the U.S. military with a key advantage over almost all other nations.

The U.S. guided bombs were a rude awakening of advanced American weapons capabilities. Generals in China and Russia first watched "smart" bombs videotaped entering air shafts and other difficult-to-hit targets on cable-television broadcasts during the 1991 Persian Gulf War. Russia's relatively advanced defense sector was unable at the time to build those types or numbers of smart bombs and other PGM that are integral to modern warfare.

In Beijing, however, the micro-electro-mechanical systems (MEMS) technology needed for most modern-day precision weapons already exists in China, developed by Kotel Micro Technique Co. Ltd. The Shanxi province-based firm manufactures almost all of the components necessary to produce the Chinese equivalent of a Boeing JDAM-type kit.

The JDAM-style bomb that was displayed in a large diagram on the Kotel stand at CIDEX showed the use of their components in what appears to be the Fei Teng (FT)-1 bomb developed by the China Academy of Launch Vehicle Technology.

China's military now has several types of precision-guided munitions that have been made public in recent years and that weapons specialists say use Kotel-produced components.

The Luoyang Optical-Electronic Technology Development Center produces the Leishi (LS)-6 extended-range glide bomb and the (Leiting) LT-2 laser-guided bomb. The China Academy of Launch Vehicle Technology produces two JDAM-type bombs known as the FT-1 and FT-3.

Not surprisingly, CIDEX is one of only two expositions that take place in China with official support from the People's Liberation Army's (PLA) General Armaments Department.

Foreign participants — sellers and buyers — are aware of the PLA sponsorship. On the buying side, foreign delegations came from Russia and Ukraine looking at purchasing Chinese electronics and other components and systems for their own weapons applications.

African states were shopping for air defense and precision weapons technology, and a delegation from cash-poor North Korea was observed at the show looking to purchase sensor technology likely for use in controlling its increasingly porous borders.

The problem with North Korea, said one Chinese industry representative, "is that they are always looking for us to give them products for free — as military aid."

"This is not very attractive for us when we are instead in the business of trying to find real buyers who will pay real money for our products," the Chinese company official said.

In pursuit of those goals, Chinese high-technology defense firms are moving beyond traditional markets of developing states in Africa and other buyer nations like Pakistan and Burma.

Instead, they are bidding on major lucrative deals for air-defense networks for South American nations, where they have been going head-to-head in competition with U.S. and European defense firms. A decade ago, China's technology level would not have allowed them to compete with Western suppliers.

For companies trying to sell defense goods to China, one of the more prominent participants at CIDEX was a Norwegian guidance system and navigation technology firm called Sensoror. Its MEMS components far exceed the capabilities of similar Chinese-produced components. One small unit produced by the company weighs 55 grams — about 2 ounces — and replaces earlier-generation fiber-

optic and laser-based guidance components that weigh many times more.

"In many areas, Chinese [military] equipment is either equal to in capability or superior to that designed in Russia in the present day," said a Moscow-based defense analyst. "It is only a matter of time before they pass up Russia completely and achieve parity with U.S. and European weapon systems."

Like many international exhibitions, CIDEX is held once every two years. But the difference between this venue and most other defense expos around the world is that with each show, Chinese industry shows far more growth than most observers expected in 24 months.

What Chinese industry achieved so far in 2010 likely would take most other states with comparably advanced high-technology enterprises until 2012 or later.

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