

# DEFENSE NEWS TOP 100

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**Dual Jobs:** A pair of EC145 helicopters, in civil and military versions, are shown flying together.

AIRBUS HELICOPTERS

## Blurred Lines

### Commercial, Defense Sectors Begin To Blend

By **MARCUS WEISGERBER, VAGO MURADIAN** and **AARON MEHTA**

**W**ASHINGTON — As companies continue to turn their eyes toward the Middle East and Asia for new business, a trend has emerged: The lines between commercial and defense businesses are increasingly blurring.

All but one company in the top 10 of this year's Defense News Top 100 — our annual ranking of the largest global defense firms — saw the percentage of their defense business decline or remain flat in 2013. Thales, at No. 9, was the only company in the top 10 that saw growth in the percentage of its business generated by defense.

Defense-heavy companies, such as US giant Lockheed Martin, which is once again at the top of the list, are diversifying their businesses. Lockheed is entering the commercial marketplace in areas such as air traffic management, aviation training and simulation, energy, and advanced manufacturing.

The Maryland-based company saw defense revenue fall more than \$4.3 billion between 2012 and 2013, however the company's overall revenue fell only \$1.8 billion.

"[W]e moved into adjacent areas, near-adjacencies; they are commercial areas that are very much aligned with our core competencies," said Marilyn Hewson, Lockheed's chairman, president and CEO. "That is our strategy. Our

strategy is to look at areas that we believe we can create diverse shareholders in, by taking the core competencies in what we have into new markets."

Those who watch the industry agree: Change is coming, and companies that don't react appropriately could get left behind.

"As a generalization, the defense industry and the defense industrial base would be well served by an industry whose structure had more exposure to commercial markets and commercial technologies than our mostly pure-play [defense] companies that comprise the top tier of the industrial structure today have," said Steven Grundman, a former Pentagon industrial policy chief now with the Atlantic

Council.

He warns that the days of pure defense firms are endangered.

"Being a pure-play defense company works great when the defense budget is growing at 6 to 8 percent a year, but the other side of that coin is that when growth stops, you're fully exposed to a flat market," Grundman said. "I don't think there is as much room in the healthy defense industrial structure for pure-play defense companies as we have today.

"As a matter of corporate strategy ... I think all the companies ought to be looking for smart ways of diversifying," he said.

The clearest example of the growing link between the defense and commercial sides comes, perhaps unsurprisingly, from the largest US aerospace company.

Boeing, No. 2 on the list, has increasingly exploited its commercial division, a keystone of its business plan, and a look at its catalog makes it clear that will continue. Boeing saw its total company revenue climb nearly \$5 billion from 2012 to 2013. But its defense business has fallen from 38.4 percent of total company revenue

in 2012 to 36.9 percent in 2013.

"The commercial derivatives market is a real competitive differentiator for us," Chris Chadwick, president and chief executive officer of Boeing Defense, Space & Security, told reporters on a company-funded trip in June.

The company has two major Pentagon programs — the P-8 maritime patrol aircraft and KC-46A tanker — which are based on commercial versions of the Boeing 737 and 767 jetliners, respectively.

"[W]e're trying to create this track record of success in this area where we bring to bear an improved 'One Boeing' approach to servicing our customers' needs worldwide," Chadwick said.

A future replacement for the US Air Force's Joint Surveillance Target Attack Radar System command-and-control aircraft could come in the form of a 737 as well, he noted.

"It's going to be very interesting to see how market dynamics play out over the next 10 years," Chadwick said. "I can't predict the fu-

*See TOP 100, Page 22*

## INSIDE

**THE LIST** *See Our Ranking of the World's Top Defense Companies* **12, 14**

**EUROPE** Austerity, Mergers Loom Over European Planning **16**

**CHINA** Beijing Still Targets Western Technology for Industry **21**

## TOP 100

From Page 11

ture, but I think market pressures will dictate that the company who can provide more capability at less cost, adapt from an innovative perspective and bring capability onto current platforms in a very seamless way at the right price, will end up on top at the end of the day.”

Like Grundman, Chadwick expects change to take time — but he does expect to see changes in industry structure.

“It’s just such a dynamic environment right now in the defense side of the business,” Chadwick said in an interview at the Farnborough International Airshow last month. “You look at how the customers are changing. Their business models are changing. The conventional war-fighting apparatus is enduring yet it’s diversifying.”

Commercial companies are investing “tremendous amounts of money and starting to encroach the defense world” in areas including cyber, data analytics and drones, he said.

Chadwick, who has been the Boeing defense boss for a little more than seven months, will roll out vision and strategic business objectives in the coming weeks.

“That will drive organic investment and inorganic investment will be in [mergers and acquisitions], and it’s all got to be tied back to the strategy, and that’ll dictate who we talk to, how we think [and] what we acquire,” he said. “Organic always has the better track record, but the right inorganic connected with that can really help to differentiate us.”

As Lockheed looks to move more into a commercial market, it will center “around core competencies that we have today,” Hewson said.

The recent purchase of a company in the cyber infrastructure business serves as an example.

“It lines right up with the cyber-

security work we are doing,” Hewson said. “It just broadens our portfolio capabilities that we can provide. It opens up new markets for us.”

Companies have also been taking a commercial approach when developing new defense products in anticipation of less government funding for these types of efforts.

For example, Textron’s Bell Helicopter has been developing V-280 Valor, a tiltrotor it has pitched for the Army’s Black Hawk replacement program.

“If you are going to take a decade to develop something, you are going to spend a lot more money to develop,” Scott Donnelly chairman, president and CEO of Textron, said in an interview. “I think we can show that we can do things and get aircraft in the air in two years. We can take it to production at a fraction of the cost.”

Textron, which saw its defense revenue fall slightly from \$4.29 billion to \$4.24 billion in 2013 and is No. 17 on this year’s list, is looking at projects “in a more commercial sense and not go through long” engineering and development program, he said.

“Time is money,” Donnelly said. “I cannot afford those budgets. I do not think any of our customers are going to have the budgets to go through that process anyway.”

Hal Chrisman, vice president with services firm ICF International, expects firms to experiment with commercialization.

“Anybody who is playing in the defense market now with the budget situation as it is are looking at their opportunities, whatever it may be, to grow their revenues,” Chrisman said.

However, Grundman warns that most of the industry is “ambivalent” about commercializing — something that will change when companies have success stories.

“I don’t think it’s something that’s going to be given any particular impetus or spark within the next

year,” Grundman said. “But within the next five years I think we’ll see more and more diversification.”

## Preparing for the Future

In recent years, companies have been preparing for the decline in government defense spending, restructuring themselves through downsizing, facility consolidation and other overhead-cutting measures. This has softened the blow of the defense spending cuts, but “there’s probably not a whole lot more they could really do to significantly boost margins from here,” said Byron Callan, an analyst with Capital Alpha Partners.

Boeing’s Chadwick said the company has cut \$4 billion over the past three years with another \$2 billion planned in the coming years.

“It’s difficult. It’s painful, but it’s a necessity, so that we can have that agile cost structure that we have to have to compete over the next decade,” he said.

While the split between defense and commercial business seems to be trending toward the latter, it does not mean commercial business has picked up, Callan noted.

“It may not necessarily be indicative of really successful commercial diversification strategies, it’s just that defense — because of the Budget Control Act and the war-related declines — has been shrinking at a faster pace than some of these commercial businesses,” Callan said.

While many company executives speak of diversifying, some might look to shrink to become more focused in core business areas.

“Some of the changes to individual companies may also be thinking ahead,” Callan said. “They may be shrinking in size, but they’re shrinking to get more focused on particular markets.”

On the military side, companies have looked to offset US cuts with international business, particularly in the Middle East and Asia.

L-3 Communications, No. 11 on

the list, which saw its defense business revenue decline \$502 million between 2012 and 2013, is in the midst of a commercial diversification itself.

L-3 has posted double-digit growth in its commercial and international business, Michael Strianese, the New York-based company’s chairman, president and CEO, said in an interview.

Strianese touted the company’s first sale of night-vision equipment to the United Arab Emirates last year. He also applauded the Defense and State departments’ progress with export control reform and reducing bureaucracy.

L-3 announced last week that it is investigating potential accounting misconduct in one of its business units. It acknowledged that it took an \$84 million charge for a period beginning in 2011 through the first half of 2014. For 2013, the charge is \$34 million, Ralph D’Ambrosio, the firm’s senior vice president and CFO, said in a July 31 earnings call.

Speaking about the international market, Chadwick said: “What you’re seeing is that we’ve got to move from [being] an exporter to [being] a global presence more than we have in the past. So, you’re seeing where we’re investing. We’re partnering.”

Decline in defense spending has created interesting bedfellows for the few major US defense programs on the horizon. Helicopter maker Sikorsky has teamed with Boeing for the Army’s Black Hawk helicopter replacement program and Boeing has teamed with Sweden-based Saab, No. 29 on the list, for the Air Force’s new jet trainer.

Increasing the number of military aircraft based on commercial ones could have a trickle down effect into the global maintenance and sustainment market as well, Chrisman said.

“You can look at commercial opportunities, you can look at vertical operations, or you can look at sustainment. The international sus-

tainment opportunity for US companies, particularly US [original equipment manufacturers], is something they are considering and ought to be considering more.”

A plane based on commonly flown aircraft, like a 767, could make sustainment easier and cheaper, he said.

“If you’re using a 737 for the base airplane for a P-8, or a 767 for the tanker, you have a lot of people who have those capabilities.” There are companies around the world that could suddenly play a role in sustaining various military fleets, Chrisman noted. “So I think it opens up competition.”

While taking a commercial airliner and militarizing it may be the way forward for some companies, don’t expect much of the reverse.

“Taking a commercial aircraft and putting it into military service is a very effective and lucrative practice,” said Richard Aboulafia of the Teal Group. “Taking a military aircraft and putting it into civil service almost always ends in tears.”

Which doesn’t mean companies aren’t trying. Lockheed Martin just signed its first customer for the LM-100J, a commercial lift variant of the popular C-130J cargo plane. It is actually the second attempt at a commercial C-130 variant; the L-100 had some small success but ended production in 1992.

Even in small numbers, adding the LM-100J to the C-130J production line should lead to potential savings, said Orlando Carvalho, executive vice president of Lockheed’s Aeronautics division.

“As we continue to build out C-130J today, as we add in the orders we receive commercially for the LM-100J, they will get to take advantage of the same efficiencies of the production line,” Carvalho said. □

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## CHINA

From Page 21

ment and production of select advanced materials and composites needed for their fifth-generation fighters, including high-end aluminum alloy products, aramid fiber, carbon fiber, high-performance steel, nitrocell, titanium alloy and tungsten alloys.

“Only a few Chinese companies are qualified suppliers of technologies required for the production of high-performance materials that are essential for the next generation of engines, target detection systems, navigation systems, and many other subsystems used in diverse weapon platforms,” he said.

Raska said that high-end aluminum alloy products, for example, require a large hydraulic press that is both costly and difficult to manufacture. China has only five domestic companies that can make this type of press machine. Similarly, in the production



WENDELL MINNICK/STAFF

**A Work in Progress:** A model of China’s Shenyang J-31 fighter was displayed at the 2012 Airshow China in Zhuhai. China’s aviation industry still has problems producing fighter engines, Western experts say.

of aramid fiber used in armor plates in tanks or engine cases on aircraft, China still relies on imports for roughly 70 percent of its consumption, including 30 percent for defense. China’s only two domestic makers of aramid fiber, Suzhou Zhaoda and Tayho, commenced production in 2010 and 2011, respectively. Most of China’s domestic makers of carbon fiber are also new, without the necessary long-term experience to stabilize prod-

uct quality.

“Overall, China is still more of a fast follower, always playing technology catch-up, or else will be a niche innovator when it comes to defense aviation research and development,” Raska said.

Sources said there are two major Russian companies providing titanium and other high-end metal products for China’s aviation industry, VSMPO-AVISMA Corp. and the Metallurgical Plant Electrostal, both of which exhibited at the biennial Airshow China, Zhuhai, in 2012.

The only other company that exhibited at Zhuhai and works with titanium is US-based Titanium Metals Corp. (TIMET). TIMET has an office in Shanghai and has received the SQLO China Manufacturer Approval certification. More will no doubt be learned about Chinese aviation manufacturing capabilities at the next Airshow China in November. □

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## ASIA TOP 10

Company	Top 100 Rank	Country	Defense Revenue* (in millions)
Mitsubishi Heavy Industries	26	Japan	\$3,354.9
Hindustan Aeronautics	39	India	2,459
ST Engineering	49	Singapore	1,988
Korea Aerospace Industries	55	South Korea	1,364
Mitsubishi Electric	59	Japan	1,102
LIG Nex1	62	South Korea	1,087
Kawasaki Heavy Industries	66	Japan	1,005
Samsung Techwin	70	South Korea	945
Bharat Electronics	74	India	853
NEC	75	Japan	847

\*In US dollars.