



Institute of Defence and Strategic Studies



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CONTEMPORARY CONFLICT

[Iraqi Critical Infrastructure Faces Sophisticated Threat](#)

Janes Intelligence Review –19 December 2005

While oil pipelines have been extensively attacked in countries such as Columbia and Yemen before, and while power generation and utilities have been targeted by terrorists in dozens of conflicts, Iraq is now facing a multifaceted infrastructure attack of unprecedented sophistication and scale. Ironically, Iraq's critical infrastructure is facing this onslaught just as it seeks to recover from the scars left by the air campaign in 1991 during the first Gulf war - the most extensive critical infrastructure attack yet suffered by an industrialised nation. The combination of the country's active insurgency, the disassembly of the Saddam-era protective arrangements and the dilapidated state of the national infrastructure makes Iraq uniquely vulnerable to such targeting.

[After Iraq's Election : Part I](#)

The Prospect Magazine –January 2006

With the election on 15th December of a new four-year national parliament, Iraqis have concluded one of the most successful constitutional processes in history. Rarely, if ever, before has an important country moved from tyranny to pluralism so quickly, with so little bloodshed, and with such a quality and degree of popular participation.

[After Iraq's Election : Part II](#)

The Prospect Magazine –January 2006

Every major Iraqi community turned out to vote in high numbers, including the Sunnis who boycotted the last election in January. From 8m voters then, the number rose this time to 11m, out of 15m registered to vote. But where, prior to the Ba'ath regime, Iraqi parties covered the established political spectrum of left and right, this time identity politics took centre stage; large numbers voted on the basis of ethnicity or sect.

DEFENCE INDUSTRY

[Saudis Opt for Typhoon Buy](#)

Janes Defence Weekly– 22 December 2005

BAE Systems has achieved a major sales breakthrough for the Euro- fighter Typhoon multirole fighter in the Middle East with the 21 December announcement that Saudi Arabia has selected the European platform to augment its combat capabilities. The sale of what could be in excess of 72 Typhoon

aircraft is part of a government-to-government memorandum of understanding that is also expected to include an upgrade of 84 Panavia Tornado interdiction strike (IDS) aircraft already in service with the Royal Saudi Air Force (RSAF).

[France Sees Sales Rising](#)

Janes Defence Weekly – 22 December 2005

France has recovered from a brief slump in foreign arms sales by recording export orders worth around EUR4 billion (USD4.8 billion) in 2005, an 18 per cent rise over the previous year's figure, according to a French Ministry of Defence (MoD) report issued on 20 December. The report said orders for 2005 compared with total export sales of EUR3.8 billion in 2004 and EUR3.9 billion in 2002, although 2003 was a slightly better year, bringing EUR4.3 billion in fresh orders.

[A New Direction for China's Defence Industry](#)

RAND Corporation – 29 December 2005

Despite 25 years of weakness, China's defense industry is showing signs of improvement. Advances in the missile, shipbuilding, aviation, and information technology sectors could enhance China's military position, with short-term implications for Taiwan and long-term implications throughout Asia.

DEFENCE TECHNOLOGY

[Air Force Testing New Transparent Armour](#)

Air Force News – 17 October 2005

The Air Force Research Laboratory's materials and manufacturing directorate is testing aluminum oxynitride -- ALONtm -- as a replacement for the traditional multi-layered glass transparencies now used in existing ground and air armored vehicles. The test is being done in conjunction with the Army Research Laboratory at Aberdeen Proving Grounds, Md., and University of Dayton Research Institute, Ohio. ALONtm is a ceramic compound with a high compressive strength and durability. When polished, it is the premier transparent armor for use in armored vehicles, said. 1st Lt. Joseph La Monica, transparent armor sub-direction lead "The substance itself is light years ahead of glass," he said, adding that it offers "higher performance and lighter weight."

[A Different Kind of Smart Weapon](#)

Janes International Defence Review – 20 December 2005

Future bomb concepts, for service entry late in this decade or after 2010, are under study in the US. Among them are the largest and smallest bombs fielded or planned in decades. Boeing's Phantom Works is leading the effort to demonstrate the Massive Ordnance Penetrator (MOP), under contract to the US

Air Force and the Defense Threat Reduction Agency. The 13.6 tonne weapon measures 6 m long and contains a 2.7 tonne explosive charge. It is expected to penetrate as much as 60 m through 5,000 psi reinforced concrete and features short-span wings and trellis-type tails - the latter intended to provide responsive control in the terminal stage while making the weapon compact enough to be carried internally by a B-2 or B-52.

[Long-Range Infrared Binoculars Developed](#)

National Defense Magazine - January 2006

Thermal binoculars that provide for the first time dual-channel, high-resolution imaging and geo-locating have been developed for military and security personnel by FLIR Systems, of Portland, Ore.

[Non-lethal Weapon Readied for Battlefield](#)

National Defense Magazine - January 2006

A directed energy weapon that causes a sensation tantamount to a “bee sting all over the body” to those unlucky enough to be on the receiving end could be deployed before the end of this year, a senior Air Force official said. Gen. Bruce Carlson, commander of the Air Force Material Command, told National Defense at the Milcom 2005 conference that the non-lethal weapon soon could reach battlefields in Iraq or Afghanistan. “We're months away from fielding it if we need to.”

[Undersized Drone Promises Extended Maritime Surveillance](#)

National Defense Magazine - January 2006

It looks like a cross between an airplane and an artillery shell, but a 12-pound unmanned aircraft named Coyote may prove to be a potent tool for maritime surveillance. Coyote, five feet long and with a wingspan of 30 inches, is designed to be dropped from sonobuoy launchers on the Navy's P-3C Orion antisubmarine aircraft. Using a single rear-mounted propeller powered by an electric motor, the aircraft has an endurance of about 90 minutes at a cruise speed of about 52 knots and a range of about a hundred miles.

[Laser-Based Sensor Will Sniff Out Chemicals on the Move](#)

National Defense Magazine - January 2006

Scientists at the Army's Edgewood Chemical Biological Center in Aberdeen, Md., are working on a next-generation, laser-based chemical detector capable of operating in reconnaissance vehicles while traveling at high speeds.

ENERGY SECURITY

[High Oil Prices are Spurring Investments in Alternative Fuels](#)

The Economist -3 November 2005

OIL and natural gas availability has been severely impaired and the effects of this will reverberate through the economy of this country for some time.” Those chilling words were uttered recently by Samuel Bodman, America's energy secretary, as he pleaded for his country's gas guzzlers to start conserving energy. He warned that high prices could be here for years. Greens are ecstatic. They think high oil prices may spur a sustainable clean-energy boom. GE's wind-turbine business, which was inconsequential a few years ago, made over \$2 billion in sales this year. Ethanol, a costly green fuel which in America is usually made from corn, now looks a better buy. And wind and solar power are also back in fashion.

[The Petroleum Bomb](#)

Mechanical Engineering Magazine -25 October 2005

A single well-designed attack on the petroleum infrastructure in the Middle East could send oil to well over \$100 per barrel and devastate the world's economy. That reality, among other risks, and the fact that our current transportation infrastructure is locked in to oil, should be sufficient to convince any objective observer that oil dependence today creates serious and pressing dangers for the United States and other oil-importing nations.

[Power Boost for Future Gadgets](#)

BBC News -18 October 2005

A recent global survey across 15 countries revealed that the most desired features in a future mobile device was a long-life battery. Two-thirds of mobile and personal digital assistant owners said two days' active battery life was vital. The report said that poor battery life on mobile devices was one of the main reasons people did not play more games, music and video on their devices more often.

[The Latest Investor in Green Energy – The CIA](#)

The Christian Science Monitor -18 October 2005

What if you had a power unit that generated substantial electrical energy with no fuel? What if it were so rugged that you could parachute it out of an airplane? What if it were so easy to set up that two people could have it running in just a few hours? Now there is such a device - built by a small Virginia start-up - and the federal government has taken notice.

MILITARY OPERATIONS

[Israel Navy to Deploy First UAVs](#)

Janes Defence Weekly -23 December 2005

The Israel Navy (IN) will deploy its first reconnaissance unmanned aerial vehicles (UAVs) in January. The IN has been allocated a few Israel Aircraft Industries (IAI) Mahatz I (also known as Heron) medium-altitude long-endurance (MALE) UAVs out of several dozen recently acquired by the Israel Air Force (IAF). Two UAVs will be operated jointly by the IAF and IN for maritime patrol missions. The IN-designated Mahatz UAVs are equipped with EL/M-2022U UAV maritime patrol radars from IAI's Elta subsidiary featuring automatic detection and tracking of maritime surface targets. Providing range signature and inverse synthetic aperture radar (RS and ISAR) imaging, combined with autonomous classification, the display video and data of the sea surface are transmitted via a datalink to the ground control station.

[New Process to 'Lighten' Load, Save Money](#)

U.S. DoD News - 30 December 2005

A new mobility-bag process will now “lighten” the load of deployed members and save the Air Force money, too. The 386th Air Expeditionary Wing and two other locations are test sites for a new process to preposition mobility bags and chemical warfare defense equipment in the U.S. Central Command area of responsibility. An Air Force message stated the effort is in line with the Air Force’s vision to improve agile combat support as people deploy and help reduce excess-baggage charges and the number of aircraft seats lost due to weight restrictions. The process is expected to eliminate the need for most deployed personnel to carry individual protective equipment.

[Cycles to Enhance Army Reserve Readiness, Predictability](#)

U.S. DoD News - 27 December 2005

The Army Reserve is instituting five-year readiness cycles to ensure a steady supply of deployment-ready forces while bringing more predictability to reservists, their families and their civilian employers, a top Army Reserve general said. The Army Reserve Expeditionary Force provides a new model for how reservists will be organized, equipped, trained and mobilized in the future, said Army Brig. Gen. Richard J. Sherlock, the Army Reserve's new deputy chief, during a recent interview with the Pentagon Channel and the American Forces Press Service. Almost all Army Reserve units will be assigned to an Army Reserve Expeditionary Force package, which follows a five-year cycle to prepare for a potential deployment, the general explained.

NUCLEAR PROLIFERATION

[Improved X-Ray Vision to Stop Nuke Smugglers](#)

New Scientist – 20 October 2005

IT'S been a long day at the Port of New York and New Jersey. Officials have wasted precious time and money opening up or X-raying at least 150 incoming freight containers. They turn out to be full of cat litter, ceramic tiles or bananas - all of which happen to be naturally radioactive. What they don't realise is that they have also nodded through a container in which is stowed a 50-kilogram canister of stolen highly-enriched uranium. Unlike the bananas, the low-energy gamma rays it emits are easily absorbed by the 2-centimetre-thick sheet of lead around it, so it passes through the radiation monitors unnoticed. Some time later, home-grown terrorists build two nuclear bombs, take one across the country in a car and set off simultaneous explosions in New York and San Francisco.