



Institute of Defence and Strategic Studies



Future Systems Directorate

RÉVOLUTIONNAIRE 13/2005

The Foremost Inter-Disciplinary Defence E-Bulletin

突破 *Revolucionario* *Revolutionary* *Merevolusikan* *Revolutionär* *Kraantikari*

1 December 2005

Contemporary Conflict

- US Reveals New Iraq Rotation
- A Counter-Intuitive Strategy for Iraq
- Intelligence: The Silver Bullet That Will Beat the Insurgency

Counter-Terrorism

- A Military Guide to Terrorism in the 21st Century
- Understanding Terrorism

Defence Industry

- Barco Launches Brand New Line of Thin, Light, Semi-Rugged Displays
- Flight Training in Cyberspace
- Rudder Roll Stabilisation System for Korean Navy

Defence Technology

- US Poised for Innovative Ship Design Experiment
- US Air Force Unveils Hand-Held Laser Gun
- Sensing Technology Has Yet to Beat a Dog's Nose
- Harvesting Solar Energy From Nano-Thin Films
- Power to Spare Found in Paperback-Size Package

Military Operations

- The Stryker Brigade Combat Team
- Elbit Unveils Autonomous Ground Vehicle
- US Military Considers Disaster Assistance Options

- Leading Edge – USCG Juggles Assets for Homeland Security
- Navy's High-Speed Vessel Aids Relief Effort

Nuclear Proliferation

- Iran Nuclear Issues Require International Cooperation
- US Alters Nuclear Weapons Policy

CONTEMPORARY CONFLICT

[US Reveals New Iraq Rotations](#)

Jane's Defence Weekly – 16 November 2005

The US Army has announced which units will move into [Iraq](#), starting in mid-2006. The units could represent a decrease of about 15,000-20,000 personnel compared to the 139,000 that are in [Iraq](#) and [Kuwait](#) today, army officials have said. However, army and Department of Defense officials cautioned that projecting the number of forces that will be in [Iraq](#) in the future is impossible, given that those numbers will depend significantly on what extent Iraqi forces are able to manage their country's security. Decisions on troop strengths in [Iraq](#) are made by the president with advice from commanders in the field, such as General George Casey, commander of Multinational Force - [Iraq](#) (MNF-I), defence officials said.

[A Counter-Intuitive Strategy for Iraq](#)

Financial Times – 22 November 2005

In Iraq, the US is both the problem and the reason why the situation is not worse than it is. America's presence feeds the insurgency and yet its precipitous withdrawal would unleash an all-out civil war. That, essentially, is why US leaders, Democrat and Republican alike, are fretfully searching for a sensible exit strategy. And that is why urgent action is required to change course.

[Intelligence: The Silver Bullet That Will Beat the Insurgency](#)

National Defense Magazine – November 2005

Nearly three years of hostilities in Iraq have made it painfully obvious that despite untold billions of dollars spent on intelligence and surveillance systems, U.S. troops, for all intents, are fighting blind. Ambushes, roadside bombs and suicide attacks against soldiers and Marines have proved to be effective tactics that have worked because the insurgents have seized the element of surprise. While the Defense Department has been able to curb the casualty toll by deploying more armored vehicles and acquiring stronger body armor and electronic jammers that thwart detonations, the U.S.-led coalition has yet to make any significant inroads into the insurgents' ability to produce an inexhaustible supply of explosive devices and to stage attacks.

COUNTER-TERRORISM

[A Military Guide to Terrorism in the 21st Century](#)

Federation of American Scientist – 15 August 2005

The handbook is a high level terrorism primer that includes an overview of the history of terrorism, descriptions of terrorist behaviors and motivations, a review of terrorist group organizations, and the threat posed to our forces, both in the United States and overseas. Additionally, it provides information on the various terrorist groups, the terrorist planning cycle, operations and tactics, firearms used by terrorists, improvised explosive devices, conventional munitions used by terrorists, and a discussion on weapons of mass destruction. The manual is designed to be used to help train and educate personnel on terrorism and assist units in recognizing the treat they face in planning for operations, both in the Continental United States and overseas.

[Understanding Terrorism](#)

Jane's Police Review – 25 October 2005

Terrorism is difficult for many of us to comprehend. Something so horrifying must exist in a universe of its own and explaining it requires us to grasp its sinister peculiarities. Among the spectrum of movements they study are many that resort to violence to some degree. A few even go so far as to engage in terrorism. What is striking are the continuities across this broad range. Here I want to focus on just one of them - ideology. There is no shortage of ideologues out there, but fortunately the vast majority fail to convince anyone other than themselves. Even the most successful only succeed in persuading a small cadre of hardcore devotees, but they are among the most dangerous because the commitment of this militant core to a single issue justifies violence in their mind.

DEFENCE INDUSTRY

[Barco Launches Brand New Line of Thin, Light, Semi-Rugged Displays](#)

Army Technology – 30 November 2005

Visualization specialist Barco is launching a brand-new family of semi-rugged displays for the Defense and Security community. The new product line, named thinLITE, introduces a new level of compactness, energy-efficiency and performance into the lower-end rugged display market. With the new product line, Barco further diversifies its offering of innovative display technology for Command and Control missions. Typical target applications for the new display line are (non)-mission-critical naval environments, ground control stations for unmanned aerial vehicles, airborne applications in special-missions aircraft or landbased applications in shelters, vehicles or command posts.

[Flight Training in Cyberspace](#)

Air Force Technology – 28 November 2005

In 2005 the Federal Office for Defense Technology and Procurement (BWB) presented the Holloman Air Force Base in Holloman, New Mexico with the new TORNADO visualization simulator from Rheinmetall Defence Electronics (RDE), Bremen. Fitted with a new visualization system, the modified simulator enables jet pilots to carry out training exercises and flight maneuvers with a level of realism never before seen. This includes the training of flight navigation and coordination between crew members, something that lends itself perfectly to simulation

[Rudder Roll Stabilisation System for Korean Navy](#)

Naval Technology – 24 October 2005

Imtech Marine & Offshore has signed a contract with B+V Industrietechnik for the delivery of an Adaptive Steering and Stabilization Autopilot (ASSA) to be installed on the new Aegis-class KDX-III Destroyers for the Republic of Korea Navy. Imtech and BVI work closely together with Korean partner SPECO to supply the Rudder Stabilization System (RRS), a combination of the special ASSA Autopilot and a rotary vane steering gear. Planning is to build three KDX-III vessels, the first ship is under construction at Hyundai Heavy Industries in Ulsan, Korea. Reason for the Korean Navy to select RRS system are the proven advantages over more conventional fin stabilizers. Thanks to lower fuel consumption and maintenance cost the operating expenses of a ship equipped with RRS are less than for warships with fins. Of course also the initial investment costs are lower, since these ships will have rudders anyway, but do not need the additional fin stabiliser installation.

DEFENCE TECHNOLOGY

[US Poised for Innovative Ship Design Experiment](#)

Jane's Defence Weekly – 16 November 2005

The US Department of Defense is preparing for an ambitious operational experiment with its largest-ever naval vessel built exclusively with carbon materials, according to US defence and industry officials. The initiative features the [M80 Stiletto](#), a 24.4 m-long, 12.1 m-wide vessel developed by M Ship Company of San Diego, California. The lightweight, all-carbon ship features the company's patented M-hull design. Bill Burns, the company's co-founder, told *JDW* that the hull converts wave energy into lift for the vessel. In the process, this reduces the ship's wake and allows for a fast yet smooth ride, he said

[US Air Force Unveils Hand-Held Laser Gun](#)

Janes Defence Weekly –30 November 2005

The US [Air Force](#) has unveiled its first hand-held laser weapon that gives security forces a non-lethal option for controlling crowds and protecting areas like checkpoints, according to service officials. While only in prototype form and years away from fielding, the weapon, known as the Personnel Halting and Stimulation Response (PHaSR) system, holds great promise, they said. The PHaSR is about the same size and weight of a fully loaded [M60](#) machine gun - around 9 kg - but shoots a low-power beam of laser light instead of bullets. The light it generates is capable of temporarily impairing an individual's vision, much like the disorienting glare one sees when looking into the sun, said the officials.

[Sensing Technology Has Yet to Beat a Dog's Nose](#)

National Defense Magazine - November 2005

The U.S. Customs and Border Protection agency is increasing its reliance on K-9 teams to spot terrorists, illegal immigrants and drug smugglers. The current force of approximately 1,400 teams—each consisting of a dog and a handler—has grown by 200 over the past two years. The reason is the sensitivity of a dog's nose, said David Sturm, an instructor here, at the CBP's Canine Enforcement Training Center (CETC). "Science hasn't come up with a sensing technology yet that beats a dog's nose," he said. "Humans smell a stew. Dogs smell the carrots, the potatoes, the meat. They break it down."

[Harvesting Solar Energy From Nano-Thin Films](#)

National Defense Magazine - October 2005

Researchers at the U.S. Army Soldier Systems Center in Natick, Mass., are developing prototypes of battery chargers and shelters that would harness solar energy through nanocomposite thin-film photovoltaics. "It's really an exciting time right now, because there are a number of new photovoltaic technologies out there trying to drive down costs, allowing you to use them in ways that couldn't be used before," said Lynne Samuelson, a research chemist at Natick. Photovoltaic technology has advanced from the large, heavy and expensive glass panels into smaller, lightweight and cheaper devices.

[Power to Spare Found in Paperback-Size Package](#)

National Defense Magazine - November 2005

A just-developed compact fuel cell that is based on a highly concentrated methanol solution delivers 25 watts of continuous power to soldiers on the move. Weighing in at about 40 ounces, the cell is composed of a fuel processor, fuel cell stack, control system, balance-of-power plant and a quick replace cartridge. Produced by Ultracell Corporation of Livermore, Calif., the system is driven by novel micro reformer technology that, with a push of a button, provides power as

needed. A commercial version of the methanol fuel cell will be available next year. It is aimed at mobile laptop users, first responders, researchers on the move, remote electronic monitoring and industrial video makers.

MILITARY OPERATIONS

[The Stryker Brigade Combat Team](#)

RAND Corporation -13 October 2005

The authors of this report seek to understand how network-centric operations (NCO) capabilities are a source of combat power for the Army's Stryker brigade and determine how well the tenets of NCO are realized by the unit. They compared the performance of a Stryker brigade with that of a light infantry brigade in exercises and found that the new unit's NCO capabilities vastly improved performance. They determined that NCO capabilities made the unit a more effective combat force. They conclude by discussing the implications of the NCO capabilities for future Army forces.

[Elbit Unveils Autonomous Ground Vehicle](#)

Jane's Defence Weekly - 19 October 2005

The Avantguard patrol, surveillance and reconnaissance vehicle was developed in conjunction with Israeli all-terrain vehicle manufacturer Tomcar to create an autonomous platform suitable for defence requirements, Tal Yeshaya, Elbit Systems Director of Land Platforms, told *JDW*. Based on a Tomcar TM27GL all-terrain vehicle chassis with a rear-wheel drive, the Avantguard is powered by a 900 hp [Daihatsu](#) engine and features proprietary advanced robotics and sensors.

[US Military Considers Disaster Assistance Options](#)

Jane's Defence Weekly - 19 October 2005

The US military is preparing to play a more active role in future disaster relief operations at home, senior defence officials have said. Assistant Secretary of Defense for Homeland Defense Paul McHale acknowledged such preparations are being considered but said that, even if approved, they would only be used in extreme circumstances

[Leading Edge – USCG Juggles Assets for Homeland Security](#)

Jane's Navy International - 21 November 2005

Together, the impact of Hurricane Katrina and the terrorist attacks of 11 September 2001 have put homeland security at the top of the US Coast Guard (USCG) agenda. Sector Commanders are now designated as Federal Maritime Security Coordinators for ports, pulling together resources from all other involved

parties such as police and customs, and acting as the lead agency in building maritime domain awareness.

[Navy's High-Speed Vessel Aids Relief Effort](#)

National Defense Magazine - November 2005

Among the flotilla of U.S. Navy ships delivering relief supplies to the hurricane-devastated Gulf Coast earlier this fall was a strange-looking vessel that may have a big future. The ship was the HSV-2 Swift, which may be a forerunner of a next-generation fleet of fast, shallow-draft American-built transports capable of operating close along the shorelines of the world's hot spots.

NUCLEAR PROLIFERATION

[Iran Nuclear Issue Requires International Cooperation](#)

Department of State Washington File – 25 November 2005

Iran's continuing failure to comply with international nuclear nonproliferation obligations has created a "crisis in confidence" over its nuclear program intentions, U.S. Ambassador Gregory Schulte told the International Atomic Energy Agency (IAEA) November 24. Schulte is the U.S. permanent representative to the IAEA. The IAEA Board of Governors is meeting November 24-25 in Vienna, Austria. In September, the IAEA board found Iran not in compliance with its international nuclear safeguards obligations but deferred submitting a required report to the United Nations to give Iran time "to take positive steps" that could be reflected in that report, Schulte told the board

[U.S. Alters Nuclear Weapons Policy](#)

San Francisco Chronicle – 28 November 2005

After struggling in recent years to redefine U.S. nuclear policy, Congress turned the country in a new direction this month by giving millions of dollars for a program aimed at producing a smaller arsenal of more reliable warheads. Lawmakers killed the widely criticized nuclear "bunker buster" concept, which critics regarded as too aggressive, and instead appropriated \$25 million for research on what is called the reliable replacement warhead, or RRW. Though that initial sum is relatively modest, it signifies an important policy shift that could end up costing many billions of dollars.