



Institute of Defence and Strategic Studies



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Articles from subscriber only sites are available on request. Révolutionnaire is edited by Joshua Ho, with contributions from Bernard Loo, Alvin Chew, and Manjeet Singh Pardesi.

CONTEMPORARY CONFLICT

[US DoD Office Focuses on Tomorrow's Threats](#)

Jane's Defence Weekly – 27 April 2005

The office within the US Department of Defense (DoD) responsible for the fielding of many anti-terrorist innovations since 9/11 wants to place more emphasis on anticipating and thwarting potential future threats, according to its director. The Combating Terrorism Technology Task Force has played a key role in the DoD's efforts to counter improvised explosive devices (IEDs) and quickly field new weapons, sensors and additional technologies like lightweight batteries, water purifiers and language-translating devices to support troops in Afghanistan and Iraq. Assistant Deputy Undersecretary of Defense for Force Protection Ben Riley, who heads the task force, said no one can be certain of tomorrow's threats, and areas of concern include maritime attacks; IEDs with biological, chemical or radiological agents; industrial chemicals and toxic materials used as weapons; and mass kidnappings of civilians. Thus he believes that more must be done to develop communications and intelligence systems, including psychological profiling, to avert a mass hostage-taking similar to what happened when Chechen separatists seized a school in southern Russia in 2003.

COUNTER-TERRORISM

[New, Advanced Technologies Pose Potential Terrorist Risks of Misuse, Expert Tells U.S. Lawmakers](#)

Global Security Newswire – 3 February 2005

Terrorists could employ new, advanced technologies to conduct attacks with the potential to cause mass casualties, a U.S. terrorism expert warns. Mr Michael Swetnam, Chief Executive Officer and Chairman of the Potomac Institute for Policy Studies, said that among those that pose potential risks is biotechnology. He also warned lawmakers about the risks of terrorists using advances in neurotechnology and nanotechnology to conduct attacks.

[U.S. Figures Show Sharp Global Rise In Terrorism](#)

Washington Post – 27 April 2005

The number of serious international terrorist incidents more than tripled last year, according to U.S. government figures, a sharp upswing in deadly attacks that the State Department has decided not to make public in its annual report on terrorism due to Congress this week. The State Department announced last week that it was breaking with tradition in withholding the statistics on terrorist attacks from its congressionally mandated annual report. Critics said the move was designed to shield the government from questions about the success of its

effort to combat terrorism by eliminating what amounted to the only year-to-year benchmark of progress.

DEFENCE STRATEGY

[Future Pentagon Investments To Reshape Defence Industry](#)

National Defense - May 2005

Despite being heavily committed in the Middle East, Defense Department officials argue that long-range investment decisions must begin now if the military is to have crucial capabilities 20 years down the road. Officials believe the paramount obstacle to developing critical defense technologies is the shortage of specialists who are educated across the sciences. Both Pentagon leaders and industry representatives, who lament the dearth of domestic scientists and engineers, have emphasized this point.

DEFENCE TECHNOLOGY

[Maximum pain is aim of new US weapon](#)

New Scientist – 2 March 2005

The US military is funding development of a weapon that delivers a bout of excruciating pain from up to 2 kilometres away. Intended for use against rioters, it is meant to leave victims unharmed. But pain researchers are furious that work aimed at controlling pain has been used to develop a weapon. And they fear that the technology will be used for torture.

[Unlimited, Renewable Power Source for GIs](#)

National Defense - April 2005

Soldiers on the move may no longer have to tote a heavy load of batteries. Global Solar has developed the P3—a solar energized power generator that is lightweight and folds for easy storage. The power pack that relies on thin film photovoltaic technology is giving new zip to nickel cadmium, nickel-metal-hydride and lithium ion rechargeable batteries. The power pack has double the power-to-weight ratio of alternative solar generators, according to a company official. For troops on the move, the power generator enables more time on mission, enhanced logistics and for the budget conscious, a significant savings over stocking use-and-lose batteries.

[Lockheed Martin Joint Common Missile Excels in Wind Tunnel Tests](#)

Space War – 19 April 2005

Lockheed Martin has successfully completed initial F/A-18 E/F integration wind tunnel tests of its Joint Common Missile (JCM). The JCM will provide pilots a precision, all-weather, low-collateral damage weapon required to counter unconventional threats of the 21st century battle environment. This testing builds on the JCM freestream wind tunnel testing previously conducted as a further step in the development and integration of JCM onto its host aircraft. In the most recent testing, a JCM scale model was mounted on a movable support system and positioned to simulate its in-flight position on the aircraft. The JCM is a multi-target, multi-service weapon with fire-and-forget capability and precision-strike targeting that will increase crew survivability and minimize collateral damage. In addition to replacing the Maverick missile on the F/A-18E/F fighter, JCM will also replace the Longbow and Hellfire missiles for three rotary-wing platforms.

[USAF Faces Highs and Lows of Directed Energy](#)

Jane's Defence Weekly – 20 April 2005

The US Air Force (USAF) continues to make significant strides in its quest to field directed-energy (DE) weapons on airborne platforms. Recent successes include the laboratory demonstration of a new type of lightweight aircraft self-defence laser and the maturation of a prototype Humvee-mounted non-lethal beam to the point that its completion is expected in 2005. The latter accomplishment has spawned interest in placing the same millimetre-wave beam on a small aircraft.

[USAF Tactical Air Controllers Gain Portable Tactical Data Connectivity](#)

Space War – 20 April 2005

Innovative Concepts' PCIDM is designated as the "data modem of choice" by the U.S. Air Force (USAF) and WalkAbout Computers, the USAF's newly selected provider of rugged tablet computers. The PCIDM was chosen by the U.S. Air Force's Tactical Air Control Party's Modernization Program (TACP-M) to provide Close Air Support, Situational Awareness, and C2 digital messaging to multiple aircraft platforms. The PCIDM provides a direct, digital connection to the communication suites of the F-16, AV-8B, EA-6B, F/A-18, AH-64D, OH-58D, JSTARS, and a host of international platforms. WalkAbout's order to Innovative Concepts is for 300 PCIDM card kits. These computers were chosen by the USAF for the data link integration that the PCIDM provides, and the robustness of the computer. Housed in a hardened aluminium case, the PCIDM and computer components are sealed against moisture and dust, and able to withstand shock, vibration, weather, dirt, humidity, liquid spills and harmful chemicals.

[Future Computer: Atoms Packed in an "Egg Carton" of Light?](#)

Space Daily – 26 April 2005

Scientists at Ohio State University have taken a step toward the development of powerful new computers - by making tiny holes that contain nothing at all. The holes - dark spots in an egg carton-shaped surface of laser light - could one-day cradle atoms for quantum computing. Worldwide, scientists are racing to develop computers that exploit the quantum mechanical properties of atoms. These so-called quantum computers could enable much faster computing than is possible today. One strategy for making quantum computers involves packaging individual atoms on a chip so that laser beams can read quantum data. If quantum theorists are correct, quantum bits, or qubits, will enable more efficient problem solving because a qubit can simultaneously encode both a zero and a one. This allows the quantum computer to efficiently carry out a large number of calculations simultaneously.

[10 Emerging Technologies: Airborne Networks](#)

Technology Review - May 2005

The technology that underpins the air traffic control system hasn't changed much in a half-century. Planes still depend on elaborate ground-based radar systems, plus thousands of people who watch blips on screens and issue verbal instructions, for takeoffs, landings, and course changes. The system is expensive, hard to scale up, and prone to delays when storms strike. An entirely different approach is possible. Each plane could continually transmit its identity, precise location, speed, and heading to other planes in the sky via an airborne network. Software would then take over, coordinating the system by issuing instructions to pilots on how to stay separated, optimize routes, avoid bad weather, and execute precise landings in poor visibility.

INTELLIGENCE/COUNTERINTELLIGENCE

[Nanotech for the Intelligence Community](#)

The National Academic Press – 2005

Nanoscale devices "that take advantage of quantum and other phenomena offer exciting possibilities for future [Intelligence Community] applications," according to a recent report from the National Academy of Sciences. Areas of potential interest include quantum computing and communication, molecular electronics, and intelligent sensor networks.

However, some proposed capabilities are "highly speculative or specious," the Academy study said. The Intelligence Community should develop in-house expertise to help it "avoid investing in 'science fiction' areas such as nonbiological exponential manufacturing systems (assemblers)."

MILITARY OPERATIONS

[Army Developing Tactics for Armed Robotic Aircraft](#)

National Defense – April 2005

One of the Army's oldest unmanned aerial vehicles is being outfitted with precision-guided weapons for operations in Iraq, officials say. The armed aircraft, called the Hunter, is viewed as a potentially valuable weapon for urban warfare. Army source say that a weaponised UAV that is able to loiter for hours and strike fleeting targets has intuitive appeal to the U.S. military.

[Unmanned Aircraft 'Roadmap' Reflects Changing Priorities](#)

National Defense – April 2005

The Defense Department is dispensing with the descriptive "unmanned aerial vehicles," in favor of a new term: unmanned aircraft systems. Officials assert this name change reflects the increasingly complex nature of unmanned-aircraft programs, which not only include airframes, but also ground-control stations, sensor suites and communications devices.

[Drone aircraft flying high against insurgency](#)

The New York Times – 6 April 2005

In the skies over Iraq, the number of remotely piloted aircraft - increasingly crucial tools in tracking insurgents, foiling roadside bombings, protecting convoys and launching missile attacks - has shot up to more than 700 now from just a handful four years ago, U.S. military officials say. As the American military continues to shift its emphasis to missions against insurgency and terrorism, the drone aircraft are in such demand that the Pentagon is poised to spend more than \$13 billion on them through the end of the decade.

REGIONAL DEVELOPMENTS

[TNI Plans to Solve its Business in Next Two Years](#)

Antara News - 12 April 2005

The Indonesian military (TNI) says that it will give up its business enterprises within two years as the organization continues with a series of reforms aimed at making it a more professional force. It is expected that those ventures not generating profits will be closed soonest, while profit making operations will be sold privately. While many military-run businesses have been linked to illegal industries such as timber smuggling and drug running, analysts note that as much as 70 percent of the TNI's budget is derived from these ventures, meaning

that Jakarta will have to dramatically increase military spending to maintain current operational capabilities.

[Point of No Return?](#)

The Economist – 21 April 2005

For once, a meeting between Indian and Pakistani leaders ended in hope not recrimination. Pakistan's president, General Pervez Musharraf, this week paid his first visit to India since a disastrous summit in 2001. The co-operative mood had been set by the opening, on April 7th, of a bus route between Srinagar, capital of Indian-held Kashmir, and Muzaffarabad, capital of the Pakistani part, for the first time since partition in 1947. The service brought the hope of reunion to separated Kashmiri families, but also showed a new willingness by both governments to compromise on long-held sticky positions. It helped that Pakistan joined India in condemning an attack by Kashmiri separatists on some of the buses' passengers before they left Srinagar.

[North Korea's Nuclear Diplomacy Gets Hotter](#)

Space War - 26 April 2005

What is the strategic purpose of North Korea's nuclear weapons drive? Does it want to use them against the United States, South Korea or other nations? Or is it seeking to sell nuclear material to terrorists? If not, is the program aimed at gathering greater bargaining strength with the United States? The question has dominated South Korean security officials and scholars since North Korea's nuclear weapons program became public in 1993. Few analysts in Seoul believe North Korea will use nuclear weapons because it knows such a move would be catastrophic. At the least, U.N.-backed sanctions would lead the North's already faltering economy to collapse, resulting in political turmoil. Pyongyang says its pursuit of nuclear weapons is defensive to cope with U.S. "reckless moves for military aggression," but analysts dismiss the claim because if North Korea had no weapons, the United States would have no reason to attack it. This is why many analysts in South Korea say the North's nuclear threats are aimed at gaining leverage.

WEAPONS PROLIFERATION

[Negative Security Assurances: Revisiting the Nuclear-Weapon-Free Zone Option](#)

Arms Control Today – April 2005

A perennial subject of contention at review conferences of the nuclear Nonproliferation Treaty (NPT), held every five years, has been the desire of the non-nuclear-weapon states-parties to the treaty to obtain "legally binding

negative security assurances” from the five nuclear-weapon states-parties: China, France, Russia, the United Kingdom, and the United States. In the context of NPT diplomacy, negative security assurances are guarantees by the five NPT nuclear-weapon states not to use or threaten to use nuclear weapons against states that have formally renounced them. The non-nuclear-weapon states have traditionally pressed for such assurances in the form of a free-standing treaty. Negative security assurances will surely be a controversial subject at the May 2005 NPT Review Conference in New York. Before the rhetoric obscures the reality, however, it is worth revisiting one approach for addressing this issue: the extension of binding negative security assurances by means of protocols to treaties establishing nuclear-weapon-free zones (NWFZs).

[Nonproliferation Through Disarmament](#)

Arms Control Today – 20 April 2005

The nuclear Non-proliferation Treaty (NPT) has made the world safer by significantly raising the political costs of and technical barriers to the development of nuclear weapons. It has helped establish a global norm against the acquisition, trade, testing, modernization, and use of nuclear weapons. Despite the very significant accomplishments of the NPT, the nuclear non-proliferation system, is under great stress. As the May 2005 NPT Review Conference nears, it is evident that global security and proliferation challenges are as politically and technically complex as they were in the 1960s when the NPT was conceived and created. The NPT is not broken, but it must be strengthened if past successes are to be preserved and if today's and future proliferation threats are to be rolled back.