

17TH

U.S.-SWEDEN DEFENSE INDUSTRY CONFERENCE

In conjunction with



SOFF
Swedish Security & Defence
Industry Association



Embassy of Sweden
Washington

May 16 | Washington, DC | [NDIA.org/Sweden](https://ndia.org/Sweden)



The National Defense Industrial Association is the trusted leader in defense and national security associations. As a 501(c) (3) corporate and individual membership association, NDIA engages thoughtful and innovative leaders to exchange ideas, information, and capabilities that lead to the development of the best policies, practices, products, and technologies to ensure the safety and security of our nation. NDIA’s membership embodies the full spectrum of corporate, government, academic, and individual stakeholders who form a vigorous, responsive, and collaborative community in support of defense and national security. NDIA is proud to celebrate 100 years in support of our

warfighters and national security. The technology used by today’s modern warfighter was unimaginable 100 years ago. In 1919, BG Benedict Crowell’s vision of a collaborative team working at the intersection of science, industry, government and defense began what was to become the National Defense Industrial Association. For the past century, NDIA and its predecessor organizations have been at the heart of the mission by dedicating their time, expertise and energy to ensuring our warfighters have the best training, equipment and support. For more information visit **NDIA.org**



The Embassy of Sweden in Washington, D.C. is one of Sweden’s largest missions and serves as the official link between Sweden and the United States. In addition to the Embassy and the approximately 30 Swedish Consulates throughout the U.S., Sweden is also represented by many Swedish-American organizations as well as Swedish artists and companies that today support over 360,000 jobs in the U.S. When you take subcontractors, infrastructure, and related services into account, the total reaches nearly one million jobs.

In 2006, House of Sweden opened its doors on the Georgetown waterfront in Washington, D.C. as the flagship of Sweden’s public diplomacy in the United States. Since then seminars, concerts, exhibitions, meetings and family events are offered to the public.



The Swedish Security and Defence Industry Association was founded in 1986. The Association is open to companies producing equipment and services, military as well as commercial, for defense and homeland security applications. The purpose of the Association is to promote the common interests of the industry and to strive for an increased understanding of its importance to Swedish security and defence policy. The Association represents the Swedish Security and Defence Industry in several international organisations in addition to co-operating with defense industry associations worldwide.

THANK YOU TO OUR SPONSOR



EVENT INFORMATION



LOCATION	House of Sweden 2900 K St NW Washington, DC 20007
EVENT WEBSITE	NDIA.org/Sweden
ATTIRE	Civilian: Business Military: Uniform of the day
SURVEY AND PARTICIPANT LIST	You’ll receive via email a survey and list of attendees (name and organization) after the conference. Please complete the survey, which helps make our event even more successful in the future.
EVENT CONTACT	Britt Sullivan, CMP Associate Director, Meetings & Special Projects (703) 298-1514 bsullivan@ndia.org
PLANNING COMMITTEE	Frank Cevalso Cevalso International, LLC Ola Alfredsson Embassy of Sweden, Washington Nils Johansson Embassy of Sweden, Washington Britt Sullivan NDIA Camilla Shanley NDIA
SPEAKER GIFTS	In lieu of speaker gifts, a donation is being made to the Fisher House Foundation.
HARASSMENT STATEMENT	NDIA is committed to providing a professional environment free from physical, psychological and verbal harassment. NDIA will not tolerate harassment of any kind, including but not limited to harassment based on ethnicity, religion, disability, physical appearance, gender, or sexual orientation. This policy applies to all participants and attendees at NDIA conferences, meetings and events. Harassment includes offensive gestures and verbal comments, deliberate intimidation, stalking, following, inappropriate photography and recording, sustained disruption of talks or other events, inappropriate physical contact, and unwelcome attention. Participants requested to cease harassing behavior are expected to comply immediately, and failure will serve as grounds for revoking access to the NDIA event.
ANTI-TRUST STATEMENT	The NDIA has a policy of strict compliance with federal and state antitrust laws. The antitrust laws prohibit competitors from engaging in actions that could result in an unreasonable restraint of trade. Consequently, NDIA members must avoid discussing certain topics when they are together at formal association membership, board, committee, and other meetings and in informal contacts with other industry members: prices, fees, rates, profit margins, or other terms or conditions of sale (including allowances, credit terms, and warranties); allocation of markets or customers or division of territories; or refusals to deal with or boycotts of suppliers, customers or other third parties, or topics that may lead participants not to deal with a particular supplier, customer or third party.

7:00 – 8:00 am	REGISTRATION		1:00 – 2:00 pm	INDUSTRIAL BASE POLICIES: IMPLICATIONS FOR INTERNATIONAL COOPERATION	
8:00 – 8:10 am	CONFERENCE INTRODUCTION			Steve Grundman Atlantic Council <i>Moderator</i>	
	General Hawk Carlisle, USAF (Ret) President and CEO, National Defense Industrial Association	Robert Limmergård Secretary General, Swedish Security & Defence Industry Association (SOFF)		Commander Corey Johnston, USN Special Advisor for Industrial Policy, Department of Defense	Michael Cherinet Deputy Director-General, Head of the Department for Acquisition, Research and Development, Ministry of Defence
8:10 – 8:20 am	WELCOME REMARKS			Niklas Alm Deputy Secretary General, Swedish Security & Defence Industry Association (SOFF)	Colonel Wes Hallman, USAF (Ret) Senior Vice President, Policy, National Defense Industrial Association
8:20 – 9:05 am	KEYNOTE ADDRESS: GEOPOLITICAL SCENE SETTER		2:00 – 2:45 pm	DEFENSE INDUSTRIAL PARTNERSHIPS: BOEING & SAAB	
	Jan-Olof Lind State Secretary, Ministry of Defence, Sweden	Alan Shaffer Deputy Under Secretary of Defense for Acquisition and Sustainment (A&S)		Micael Johansson Deputy CEO, Senior Executive Vice President, SAAB Group	William (Ted) Torgerson Senior Director, Program Integration Boeing T-X Advanced Pilot Training Strike, Surveillance and Mobility, The Boeing Company
9:05 – 10:00 am	U.S. – SWEDEN FUTURE CAPABILITIES		2:45 – 3:15 pm	NETWORKING BREAK	
	Major General Bengt Svensson Defence Attache, Embassy of Sweden <i>Moderator</i>		3:15 – 3:45 pm	DEFENSE INDUSTRIAL PARTNERSHIP: SYSTECON	
	Jim Mitre Senior Vice President for Strategy & Analysis, Govini	Magnus Bergman Deputy Director General and Head of Department for Military Capability and Operations, Ministry of Defence of Sweden		Justin Woulfe Chief Technology Officer, Sys-te-con North America	
	Colonel Rickard Stridh Chief Scientist, Swedish Armed Forces		3:45 – 4:15 pm	AN INTERVIEW WITH A SWEDISH-AMERICAN START-UP COMPANY	
10:00 – 10:30 am	NETWORKING COFFEE BREAK			Vago Muradian Editor and Host, Defense and Aerospace Report	Staffan Truvé Chief Technology Officer, Recorded Future
10:30 – 11:30 am	SWEDEN – U.S. DEFENSE TECHNOLOGY ACQUISITION		4:15 – 5:00 pm	PROVIDING INNOVATION FOR TECHNOLOGICAL SUPERIORITY	
	Lieutenant General Göran Mårtensson Director General, Swedish Defence Materiel Administration (FMV)	Jeffrey White, SES Principal Deputy Assistant Secretary of the Army (Acquisition, Logistics, and Technology)		Dr. Eva Dalberg Acting Defence Research Director, Swedish Defence Research Agency	Mary Miller Principal Deputy Director Defense Research and Engineering for Research and Technology
	Carroll Quade, SES Deputy for Test and Evaluation, Assistant Secretary of the Navy (Research Development and Acquisition)		5:00 – 5:15 pm	CLOSING REMARKS	
11:30 am – 1:00 pm	NETWORKING LUNCHEON			Major General James Boozer, USA (Ret) Chief of Staff, National Defense Industrial Association	Robert Limmergård Secretary General, Swedish Security and Defense Industry Association
			6:30 – 8:30 pm	NETWORKING DINNER RECEPTION AMBASSADOR’S RESIDENCE Sponsored by the Swedish Embassy, Washington	

GENERAL HAWK CARLISLE, USAF (RET)

President and Chief Executive Officer, NDIA

Herbert J. “Hawk” Carlisle became president and chief executive officer of the National Defense Industrial Association (NDIA) June 15, 2017.

Gen. Carlisle came to NDIA after a 39-year career in the Air Force, from which he retired as a four-star general in March 2017. His last assignment was as commander, Air Combat Command at Langley Air Force Base in Virginia.

Before that, Carlisle was the commander of Pacific Air Forces; the air component commander for U.S. Pacific Command; and executive director of Pacific Air Combat Operations staff, Joint Base Pearl Harbor in Hawaii.

Carlisle has served in various operational and staff assignments throughout the Air Force and commanded a fighter squadron, an operations group, two wings and a numbered air force. He was a joint service officer and served as chief of air operations, U.S. Central Command Forward in Riyadh, Saudi Arabia. During that time, he participated in Operation Restore Hope in Somalia. He also participated in Operation Provide Comfort in Turkey and Operation Noble Eagle, which continues.

Carlisle served as director of operational planning, policy and strategy; deputy chief of staff for air, space and information operations, plans and requirements; and twice in the plans and programs directorate. He also served as deputy director and later director of legislative liaison at the Office of the Secretary of the Air Force.

ROBERT LIMMERGÅRD

Secretary General, Swedish Security & Defence Industry Association (SOFF)

Robert Limmergård is Secretary General at the Swedish Security and Defence Industry Association (SOFF), representing Security, Cyber and Defence companies in Sweden. Robert is also Member of the Board at AeroSpace and Defence Industries Association of Europe (ASD), the organisation that represents the aeronautics, space, defence and security industries in Europe. He has previous also been a member of the board at Svenskt Flyg, the Swedish aviation organisation, as well as Swedish Aerospace Industries.

H.E. KARIN OLOFSDOTTER

Ambassador of Sweden to the United States, Embassy of Sweden

Her Excellency Karin Olofsdottertook up her post as Ambassador of Sweden to the United States on September 1, 2017.

Ambassador Olofsdotterhas long been a strong advocate for Swedish trade and diplomatic relations with the United States. Trade and economic growth remain top priorities for the Ambassador, along with defense cooperation, public diplomacy, and strong collaboration with the international community.

H.E. Olofsdotterbrings extensive experience in trade promotion to her current post. Prior to assuming the role as Ambassador, she served as Director-General for Trade at the Ministry for Foreign Affairs. Ambassador Olofsdotterhas also held the position of Deputy Director-General and Head of the Department for Promotion of Sweden, Trade and CSR.

Ambassador Olofsdotteris also an accomplished diplomat. Her career in the Foreign Service started in 1994 with her first posting to the Embassy of Sweden in Moscow. In the years following, she worked in security policy and defense issues as well as in numerous leadership posts within the Ministry for Foreign Affairs, including serving as Chief of Staff for several of its Ministers.

H.E. Olofsdotterhas served as part of the Swedish delegation to NATO as well as at the Swedish EU Representation in Brussels, working with European security policy and defense issues.

Ambassador Olofsdotterwas appointed Director of the Ministers’ Office in Stockholm before being asked to serve as Deputy Chief of Mission at the Embassy of Sweden in Washington, DC in 2008, a post she held for

JAN-OLOF LIND

State Secretary, Ministry of Defense, Sweden

Areas of responsibility
Defence

Personal
Born in 1962. Lives in Stockholm. Partner. Two children.

Educational background
Mr Lind has studied Economics and Business Administration at Stockholm University.

Positions and assignments
State Secretary, Ministry of Defence 2019–

Director-General, Swedish Defence Research Agency (FOI) 2010–2018

Commissioner in the Governments Commission on future capability for Military Helicopters 2009–2010

Chair for the Research & Technology Directors at European Defence Agency (EDA) 2008–2015

Acting Director-General and Deputy Director-General, Swedish Defence Research Agency (FOI) 2007–2009

National Armaments Director (NAD) of Sweden 2003–2007

Acting Director-General, Swedish Defence Materiel Administration (FMV) 2003–2007

Director at the Ministry of Defence, Department for Military Affairs 1999–2003

Principal Secretary in the Government Commission on Officer training and education 1998

ALAN SHAFFER

Deputy Under Secretary, Defense for Acquisition and Sustainment (A&S)

Mr. Alan R. Shaffer currently serves as the Deputy Under Secretary of Defense for Acquisition and Sustainment (A&S). Senate confirmed in January 2019, he is responsible to the Under Secretary of Defense for all matters pertaining to acquisition; contract administration; logistics and material readiness; installations and environment; operational energy; chemical, biological, and nuclear weapons; the acquisition workforce; and the defense industrial base.

From 2015 to 2018, Mr. Shaffer served as the Director, NATO Collaboration Support Office in Neuilly-sur-Seine, France. In this role, he was responsible for coordinating and synchronizing the Science and Technology (S&T) collaboration between NATO member and partner Nations, comprising a network of about 5,000 scientists.

Previously to his role at NATO, Mr. Shaffer served as the Principal Deputy Assistant Secretary of Defense for Research and Engineering (ASD(R&E)) from 2007-2015. In this position, Mr. Shaffer was responsible for formulating, planning and reviewing the DoD Research, Development, Test, and Evaluation (RDT&E) programs, plans, strategy, priorities, and execution of the DoD RDT&E budget that totals roughly \$25 billion per year. He has also served twice as the Acting Assistant Secretary of Defense for Research and Engineering from 2007-2009 and 2012-2015.

Additionally, in 2009, he was appointed as the first Director, Operational Energy, Plans and Programs (Acting). Mr. Shaffer has also served as the Executive Director for several senior DoD Task Forces, including review of all research, acquisition and test activities during the 2005 Base Realignment and Closure. In 2007, he was the Executive Director for the DoD Energy Security Task Force and, from 2007-2012, he served as the Executive Director of the Mine Resistant Ambush Protection (MRAP) Task Force, where he was responsible for oversight and fielding 27,000 MRAPs.

Before entering the federal government, Mr. Shaffer served a 24-year United States Air Force career in command, weather, intelligence and acquisition oversight with assignments in Utah, California, Ohio, Honduras, Germany, Virginia and Nebraska.

MAJOR GENERAL BENGT SVENSSON

Defence Attache, Embassy of Sweden

Current Position: Defense Attaché	Member of the Royal Swedish Academy of War Sciences	Career: Commissioned, 1982
Military Education: Karlberg Army Academy, 1981-82 Artillery and Engineering College, 1984-85 Defence College, Tactical Course, 1988-89 Defence College, Staff Course, 1992-94 US Army Command and General Staff Officer Course, Command and General Staff College, (USA) 1997-98 Integrated PfP-OSCE Course, NATO Defense College (Italy), May 2001	Published Works: “Sir Basil Liddell-Hart Strategiska teorier och deras tillämplighet på modern krigföring”, Stockholm, National Defence College, 1996 ”Operativa Institutionen informations- och utbildningsmaterial 1:1 Svensk Luftkrigsdoktrin,” Anders Nystrom, Bengt Svensson, Berndt Englund, Ove Tirud, Hakan Larsson, Stockholm, National Defence College, 1996 ”Future Options for Swedish Security Policy,” Master’s Thesis, Leavenworth, Kansas, Command and General Staff College, 1998	Captain, 1983 Platoon Leader, UNFICYP, 1986 Platoon Leader, Skanska Air Defense Regiment, 1986-88 Major, 1989 2IC and CO Company, Skanska Air Defense Regiment, 1990-92 Staff Officer, HQ Swedish Armed Forces, 1994-95 Senior Liaison Officer, Head of Section 5, Swedish Battalion UNPROFOR, 1995

JIM MITRE

Senior Vice President for Strategy & Analysis, Govini

Jim Mitre is the Senior Vice President for Strategy & Analysis at Govini, a data and analytics firm. He oversees a team of data scientists and analysts focused on solving national security challenges.	Strategy & Force Development in the Office of the Secretary of Defense where he worked on defense strategy, strategic analysis, and force development. He also served as the Executive Director of the 2018 National Defense Strategy, the Department's preeminent strategic guidance document. While with the Defense Department, Jim served in Kabul,	Afghanistan and Nairobi, Kenya. He previously co-founded a private counterterrorism research organization, the SITE Institute.
Prior to joining Govini, Jim spent a decade conducting strategic planning in the Defense Department. Jim was the Principal Director for		Jim holds a J.D. from the University of Virginia School of Law and a B.B.A. from the University of Michigan Business School. He is a Term Member of the Council on Foreign Relations.

MAGNUS BERGMAN

Deputy Director General and Head of Department for Military Capability and Operations, Ministry of Defence of Sweden

Mr Bergman took his Master of Laws (LL.M.) in 1997 at Uppsala University, Sweden. He has studied American Foreign & Security Policy at the American University in Washington, D.C., USA. In the military field he is a trained officer in the Swedish Air Force Reserve. After the exam from law school, Mr Bergman started his professional career as a legal clerk at the County Administrative Court of Södermanland, south of Stockholm. Before that he had also completed one semester as an intern at the Office of the Defence Attachés at the Swedish Embassy in Washington, D.C., USA. From August 1999 till April 2000 Mr Bergman held the position as desk officer for the Baltic States and Poland, and from May 2000 till December 2002 the position as desk officer for EU/ESDP Affairs at the	Department for International and Security Affairs at the Ministry of Defence, Stockholm, Sweden. Between September 2001 and December 2002 he acted as Head of Section for EU/NATO/UN and OSCE Policy. Mr Bergman served from December 2002 as secretary in the Secretariat of the Swedish Defence Commission, during which time he became Deputy Director. In the summer of 2003 he took up a position as Counsellor at the Swedish Embassy in Rome, Italy, for the duration of the Italian Presidency of the European Union. In December 2003 Mr Bergman was appointed Defence Counsellor at the Permanent Representation of Sweden to the EU, a position he held until August 2007. Returning to Stockholm and the Ministry of Defence, Mr Bergman took up the	position as Head of Section for Operations at the Department for Military Capability and Operations. As of September 2011 Mr Bergman became Deputy Head of Department for Military Capability and Operations and was appointed Deputy Director General and Head of Department as of February 2014.
		Mr Bergman was born in Gothenburg, Sweden, in 1970 and he is married to Mrs Margareta Bergman since 1999. Together they have two children, Astrid and Olof. He speaks Swedish (mother tongue) and English fluently. In addition to this, he also has working knowledge of French and basic knowledge of Italian.

COLONEL RICKARD STRIDH

Chief Scientist, Swedish Armed Forces

Col Rickard Stridh is the Chief Scientist of the Swedish Armed Forces. The Chief Scientist is responsible for forecasting military R&D	needs and directing R&D for the Armed Force’s needs. Col Stridh was appointed Chief Scientist in 2017 and has prior to that served as military	advisor at the Swedish Ministry of Defence. Col Stridh has a M.Sc. and a Ph.D. in Electrical Engineering.
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LIEUTENANT GENERAL GÖRAN MÅRTENSSON

Director General, Swedish Defence Materiel Administration (FMV)

Current positions Director General at Swedish Defence Material Administration from 1 February 2016 and National Armament Director Member of the Board Swedish Defence Material Administration since 2014 Member of the Royal Swedish Academy of War Sciences since 2003	2007 Armed Forces Headquarters as Assistant Director Armed Forces Training and Procurement and Chief of Training 2006 Commanding Officer of the Land Warfare Centre 2002 Commanding Officer of the Artillery Regiment, School of Artillery and the garrison in Kristinehamn 2000 Armed Forces Headquarters, with an assignment at the Training and Management Directorate 1999 Battalion commander at the Royal Wendes Artillery Regiment 1997 ADC to the Chief of Staff of the Army 1995 Armed Forces Headquarters, Planning Officer at the Army Staff 1994 Armed Forces Headquarters at the Army staff 1993 The Swedish Defence Materiel Administration	1989 Company commander at Royal Wendes Artillery Regiment Promotion 2009 Lieutenant General 2009 Major General in January 2007 Brigadier General 2002 Colonel 1998 Lieutenant Colonel 1990 Major 1984 Captain 1983 Lieutenant Education 1998 – 1999 Joint Command and Staff College in London 1991 – 1993 Advanced Staff Course at the Swedish Staff College 1989 – 1990 Junior Staff Course at the Swedish Staff College
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JEFFREY WHITE, SES

Principal Deputy Assistant Secretary, U.S. Army (Acquisition, Logistics, and Technology)

Jeffrey S. White Principal Deputy Assistant Secretary of the Army (Acquisition, Logistics, and Technology) Mr. Jeffrey S. White currently serves as the Principal Deputy Assistant Secretary of the Army (Acquisition, Logistics & Technology). As the Principal Deputy, he advises the Assistant Secretary and Army leadership on all matters relating to Army acquisition, procurement, research & development and logistics. He participates in the development of policies, programs and processes for the execution of the Army’s acquisition efforts. Prior to being named to this position, he served as Vice President of Business Development at Siemens Government	Technologies, Arlington, VA. In this role he was responsible for identifying business opportunities, developing market strategy, and providing business intelligence to senior leadership as well as managing federal engagement opportunities between US Government customers and Siemens Corporation. Prior to his time with Siemens, he served in multiple SES positions within the Office of the Secretary of the Army, to include Assistant Deputy Under Secretary of the Army. His duties included the transformation of the Army’s strategic human capital to include reengineering the Senior Executive Service assignment and distribution system. He served	as the integrator for programs related to senior civilian development throughout the Army and oversaw projects related to Business Transformation and Continuous Process Improvement and the day-to-day execution of the Army’s business transformation efforts. Mr. White is a 1978 graduate of Shippensburg State College with a bachelor’s degree in psychology. He holds master's degrees in national security and strategic studies from the United States Naval War College, strategic studies from the United States Army War College, and an MBA from the University of Tennessee. Mr. White has over 33 years of Federal Service, including 27 years as an Army Aviation Office
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CARROLL QUADE, SES

Deputy for Test and Evaluation, Assistant Secretary of the Navy (Research Development and Acquisition)

Carroll P. Quade Deputy for Test and Evaluation Assistant Secretary of the Navy (Research Development and Acquisition)	career field and is the resource sponsor for the T&E investment accounts that have an annual budget of over \$500M.	of all testing on the C-2, E-2C and E2D platforms. From 2003 through 2006, Mr. Quade was the program manager of the Navy Major Range and Test Facility Base that funds the sustainment of critical Navy T&E ranges and laboratories. Mr. Quade has held various other positions to include Atlantic Marine Operations and Targets Division Head, AIRSpeed Deployment Champion and a project engineer supporting a number of programs.
Mr. Carroll P. “Rick” Quade is the Deputy for Test and Evaluation (T&E) for the Department of Navy. In this position, he acts as the senior advisor on all T&E matters to ASN RDA and the Chief of Navy Operations via the Director, Navy Test and Evaluation and Technology Requirements, OPNAV N84. Mr. Quade is responsible for the development and implementation of T&E policies that support acquisition program planning and execution. In this position, Mr. Quade is the functional leader for the T&E acquisition workforce	Mr. Quade began his career with the Navy in 1990 and was appointed to the Senior Executive Service in July 2014.	
	Prior to his current position, Mr. Quade was the Special Assistant to the DON T&E Executive and later served as the acting Deputy DON T&E Executive. From 2007 through 2009, Mr. Quade was the PMA-231 Hawkeye/Greyhound Assistant Program Manager for T&E. In this position, he was responsible for the planning and execution	Mr. Quade is a graduate of the University of Maryland College Park with a Bachelor of Science in Mechanical Engineering and he has a graduate degree in Management.

STEVE GRUNDMAN

Principal, Grundman Advisory

Steven Grundman is the Principal of Grundman Advisory, a business-strategy consultancy. He is also a Senior Fellow at the Atlantic Council in Washington, DC, where his practice addresses over-the-horizon challenges facing the transatlantic defense establishment, its militaries, ministries, and industries. From 2000 to 2011, he was	Director, Aerospace and Defense Consulting at Charles River Associates, a global business consultancy. In the 1990s, Mr. Grundman served in a succession of appointments at the US Department of Defense, culminating in his assignment as Deputy Under Secretary for Industrial Affairs and Installations. Mr. Grundman served in the US Army's 1st	Armored Division, was a consular and diplomatic officer in the US Foreign Service, and worked in the executive office and on the research staff of the Center for Naval Analyses. He holds academic degrees from Georgetown University and Harvard University.
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COMMANDER COREY JOHNSTON, USN

Special Advisor for Industrial Policy, Office of the Deputy Assistant Secretary of Defense for Industrial Policy

Commander Corey Johnston currently serves as the Special Advisor for Industrial Policy at the Department of Defense. In this role he advises both senior civilian and military leaders of the Department of Defense and the United States Government on industrial base impacts to the collective security of allies and partners.	Niklas Alm has a wide experience in defence industrial matters, international relations, armament development and acquisition, both from having been a program manager of major arms programs, extensive involvement in various European collaborative defence bodies as well as from his present involvement in promoting and developing the Swedish Security & Defence Industry. These initiatives	are run within the global defence industry arena as well as organizations such as NATO, the European Defence Agency, the Letter of Intent/Framework Agreement and OCCAR. His activities also include participation in several bilateral programs between Sweden and other nations.
• Head of Simulator- and Training Systems (FMV), 2002-2005.		

MICHAEL CHERINET

Deputy Director General, Department for Acquisition, Research and Development, Swedish Ministry of Defence

Michael Cherinet entered regular service with the Swedish Air Force as an aeronautical engineer in 1990 and has since held positions with operational units and headquarters as well as with the Defence Materiel Administration. Cherinet’s appointments has included Deputy Inspector for Military Aviation Safety, Head of Design for Air and	Space Systems with the Defence Materiel Administration, Military Advisor at the Ministry of Defence and Commanding officer of Skaraborg Air Force Wing. In 2013 Cherinet served with ISAF Joint Command in Kabul, Afghanistan. Cherinet left service with the Armed Forces in 2016 taking on his present position just being promoted to Brigadier	General. Cherinet holds a Masters Exam in Mechanical Engineering from Chalmers University of Technology.
		Michael Cherinet is Co-chairing the U.S. – Swedish MoU commission on Defence Materiel Co-operation.

NIKLAS ALM

Deputy Secretary General, Swedish Security and Defence Industry Association (SOFF)

PRESENT POSITIONS Deputy Secretary General, Swedish Security and Defence Industry Association (SOFF)	the Swedish government in the Armament- and Industry & Market areas within EU, NATO and bi-lateral relations.	• Head of Business Analysis & International Relations (FMV), 2007-2010.
Chairman, Office of Defence Industry Cooperation, Embassy of Sweden, USA	In his former role as Head of Business Analysis & International Relations at the Swedish Defence Materiel Administration (FMV), Mr. Alm was responsible for e.g. activities dealing with strategic Business Analysis and development, International Relations, Public-Private Partnerships and Industrial Participation/Offsets. For instance, he has been heavily involved in the work with the EU Defence activities the last 15 years, both on the governmental and industrial side.	• Head of Simulator- and Training Systems (FMV), 2002-2005.
Swedish Head of Delegation, NATO Industry Advisory Group (NIAG)		Niklas Alm has a wide experience in defence industrial matters, international relations, armament development and acquisition, both from having been a program manager of major arms programs, extensive involvement in various European collaborative defence bodies as well as from his present involvement in promoting and developing the Swedish Security & Defence Industry. These initiatives are run within the global defence industry arena as well as organizations such as NATO, the European Defence Agency, the Letter of Intent/Framework Agreement and OCCAR. His activities also include participation in several bilateral programs between Sweden and other nations.
Chairman of the Joint Nordic Defence Industry Cooperation Group (JNDICG)		
Chairman of the nomination committee, Swedish General Defence Association		
Member of Economic Legal & Trade commission in ASD (AeroSpace and Defence Industries Association of Europe).	• Swedish National Armaments Director Point of Contact, 2005-2012.	
RECENT POSITIONS As former Swedish National Armaments Director Point of Contact, Mr. Alm represented	• Head of Technical Capability Management Office (FMV), 2010-2012.	

WESLEY P. “WES” HALLMAN

Senior Vice President for Policy, National Defense Industrial Association (NDIA)

Wes became Vice President for Policy of the National Defense Industrial Association (NDIA) on October 10, 2017.	Wes served in several operational and staff positions including commanding a squadron and a fighter group. He also led a staff of over 2,000 as Chief of Staff for the Air Force's forward headquarters in the Middle East simultaneously managing and supporting Air Force units conducting air operations over Iraq and Afghanistan.	time in support of Operations SOUTHERN WATCH, PROVIDE COMFORT, and NORTHERN WATCH.
Wes comes to NDIA after a 27-year career in the Air Force, serving last as the Chief Air Force Liaison to the House of Representatives advising the Secretary and Chief of Staff of the Air Force on engagement with Congress and working directly with members of the House of Representatives and their offices on Air Force and national security matters.	In 2004, Wes was selected as a White House Fellow, serving as the Secretary of Agriculture's Special Assistant.	Wes is an Outstanding Graduate of the US Air Force Academy. He also earned a Master's in International Relations from the Ohio State University and is a graduate of Air Command and Staff College, the School of Advanced Air and Space Studies, and the Industrial College of the Armed Forces (Eisenhower School). Wes also completed the State Department's National Security Executive Leadership Seminar and the Air Force Enterprise Leadership Seminar at the Kenan-Flagler Business School.
Prior to his work with Congress, he was the senior executive assistant to the Joint Staff Director of Strategic Plans and Policy.	Wes is a Command Pilot with 1985 hours in the T-37, T-38, AT-38, F-15A/B/C/D, and F-22A and has over 150 hours of combat	

MICAEL JOHANSSON

Deputy CEO, Senior Executive Vice President, SAAB Group

Micael Johansson is Executive Vice President and Deputy CEO, of the Swedish defence and security company Saab. He is a member of Saab Group Management.

Micael took up his position Jan 1 2017.

Micael Johansson started as a systems engineer at former Ericsson Radio Systems 1985 and held various management positions at Ericsson Saab Avionics, later Saab Avionics. In 2008 he was appointed President of Saab Avionics and in January 2010 Senior Vice President and Head of Saab’s business area Surveillance comprising Saab’s operations within Radar, Electronic Warfare, Command and Control and Traffic Management systems.

He is a Chairman of the boards for Saab Middle East LLC in UAE and Saab Saudi LLC in Saudi, and member of the board for Saab Defence and Security LLC in USA, Saab Kockums AB in Sweden,

Akaer Participações and Saab Aeronáutica Montagens S.A in Brazil.

Mr Johansson holds a BSc+ in Mathematics and Computer Science at University of Uppsala, Sweden and various management training, e.g. at IFL Executive Education and Investor Forum Novare.

He resides in Uppsala, north of Stockholm, Sweden. He is married to Anna-Karin and has one son and two daughters

WILLIAM (TED) TORGERSON

Senior Director, Program Integration Boeing T-X Advanced Pilot Training Strike, Surveillance and Mobility, The Boeing Company

Ted Torgerson is senior director and Program Integration Office lead for Boeing T-X, supporting the U.S. Air Force Advanced Pilot Training (APT) Program contract. He is responsible for day-to-day execution of the program. Previously, Torgerson was the Boeing T-X program manager and led the Boeing and Saab team in the development, manufacture and test of the complete T-X advanced pilot training system, as well as proposal development, for the highly competitive U.S. Air Force T-X contract.

Torgerson has more than 30 years of program management, supplier management and engineering experience. His areas of expertise include propulsion, survivability technology development and integration, system engineering and developing prototype vehicles

including the X-45A and X-45C. He also has demonstrated success in integrating large, complex military aircraft systems and leading diverse teams from multiple Boeing sites, organizations and industry partners.

Prior to his current role on T-X, Torgerson was special programs director for proprietary programs in the Advanced Boeing Military Aircraft organization within Phantom Works, with assignments in portfolio management, program management and leading integrated product teams (IPTs). Prior to that assignment, Torgerson was the director of Air Vehicle Development on the U.S. Navy Unmanned Combat Air System X-45N and the Joint Unmanned Combat Air System X-45C, now Phantom Ray. While Torgerson led the air vehicle system engineering integration and

test IPT, the X-45A air vehicle development team was awarded the American Institute of Aeronautics and Astronautics 2003 Aircraft Design Award.

Previously, Torgerson supported Boeing’s tactical unmanned vehicle efforts, led a NASA Langley Unmanned Combat Air Vehicle study and worked on a number of proprietary programs and research and development projects.

Torgerson holds a bachelor’s degree in aeronautical and astronautical engineering from Purdue University and a master’s degree in engineering management from Washington University. He also represents Boeing on the Industrial Advisory Board for the School of Aeronautical and Astronautical Engineering at Purdue.

JUSTIN WOULFE

Executive Vice President, Systecon North America

Justin Woulfe is a principal and co-founder of Systecon North America with expertise in Systems, Logistics, and Cost Optimization. For the past decade, he has focused on Balancing cost and capability within the Aerospace & Defense industry.

Justin has a BS in Electrical Engineering from Virginia Military Institute, an MS in Engineering Management from Drexel University and a MS in Supply Chain management from Syracuse University through the DoD LOGTECH program. His research and analysis has

resulted in billions of dollars in savings and increases in readiness on large, complex acquisition and sustainment programs.

VAGO MURADIAN

Editor and Host, Defense and Aerospace Report

Vago Muradian has been an international security reporter, editor, commentator and broadcaster for nearly 25 years. For 14 years, he was the editor of Defense News, the world's leading defense news weekly, expanding its network of correspondents to 21 countries. He was also the founding host of Defense News with Vago Muradian, the world’s only TV talk show dedicated to defense issues that for eight years in the Washington area and worldwide on American Forces Network.

Before joining Defense News, he was the founder and managing editor of Defense Daily International and the business and international reporter for Defense Daily, the leading U.S. daily newsletter covering the defense and aerospace industry. While at Defense Daily, Vago won numerous awards including for best breaking news coverage in 1998 for his series on the U.S. government's rejection of the proposed merger between Lockheed Martin and Northrop Grumman.

He joined Defense Daily from Air Force Times, the independent U.S. publication covering the U.S. Air Force where he covered global operations, including in Europe, Haiti, Somalia and Zaire. Before covering the Air Force, Vago served as Defense News’ the land warfare reporter. He started his career at Inside the Army.

Vago has made numerous television appearances on C-SPAN, CNN, CNBC, MSNBC, conducted radio interviews with local stations as well as international outlets like the BBC, the Australian Broadcasting Corporation, Swiss TV and others. His work has been cited in books and he has been quoted in publications including the Economist.

At security conferences worldwide, Vago is a frequent speaker, panelist or moderator and lectures on the military and the media, including at the Defense Acquisition University. He is a member of the National Press Club and the Naval Submarine League. A native of New York City, Vago lives in Washington, D.C., with his family.

STAFFAN TRUVÉ

Chief Technology Officer, Recorded Future

Staffan Truvé is co-founder and CTO of Recorded Future. Previously he was CEO of the Swedish Institute of Computer Science and Interactive Institute. Staffan has co-founded more than a dozen high tech start-up. He holds a PhD in computer science from Chalmers University of Technology and an MBA from Göteborg University. He has been a Fulbright Scholar at MIT. His research interests include artificial intelligence and information visualization. Staffan is a member of the Royal Swedish Academy of Engineering Sciences.

DR. EVA DALBERG

Acting Defence Research Director, Swedish Defence Research Agency

Dr Eva Dalberg is Director International Affairs at the Swedish Defence Research Agency, FOI. Since February 2019 she serves as the Acting Swedish Defence Research Director. She took charge of FOI’s international affairs in May 2013.

Previously she was Coordinator for International Cooperation, with special responsibility for coordination of FOI's collaboration with the United States. This position she was appointed in 2008 while continuing as an active researcher.

Dalberg has been project manager for different projects concerning multi-sensor underwater surveillance using data fusion. Her research interests have included underwater threat detection and mitigation. She has previously been the head of the Underwater Acoustics Department. She first joined FOI in 2000.

Eva Dalberg received a Master of Science degree in physics from Stockholm University in 1994, and a PhD in astroparticle physics from Stockholm University in 2000. Dalberg received a University Certificate in Mechanical Engineering Design, from the University College of Eskilstuna in 1989. She worked as a tensile loading test engineer within the Gripen Fighter program at Saab Military Aircraft 1989-1990.

MARY MILLER

Principal Deputy to the Director, Defense Research and Engineering for Research and Technology

Principal Deputy to the Director of Defense Research and Engineering for Research and Technology

Performing the Duties of Assistant Secretary of Defense for Research and Engineering

Ms. Mary J. Miller is currently Performing the Duties of the Assistant Secretary of Defense for Research and Engineering (ASD(R&E)). In April 2016, she joined the Office of the Under Secretary of Defense for Acquisition, Technology and Logistics as the Principal Deputy (PD) Assistant Secretary of Defense for Research and Engineering. As the PD, she is responsible for the Department of Defense (DoD) research and development strategies and plans to develop and leverage technologies needed to ensure U.S. technological superiority. She provides leadership and establishes guidance for the development and execution of the DoD Science and Technology (S&T) enterprise as well as lead joint prototyping and experimentation efforts, systems engineering and developmental test policies and procedures with an annual budget in excess of \$12 billion. Ms. Miller oversees research efforts at 63 DoD laboratories, warfare centers, and engineering centers, in addition to prototyping, systems engineering, and developmental test efforts for the Department – all focused on delivering next

generation capabilities to the U.S. warfighter. She promotes coordination and cooperation across DoD components, between DoD and other federal and non-federal agencies and organizations and ensures technological exchange with allied and partner nations. Ms. Miller also serves as the U.S. Principal for The Technical Cooperation Program (TTCP), an international organization that collaborates in defense scientific and technical information exchange; program harmonization and alignment, and shared research activities between Australia, Canada, New Zealand, United Kingdom, and the U.S.

Prior to her current assignment, she served three years as the Deputy Assistant Secretary of the Army for Research and Technology (DASA(R&T)). In that role, she was responsible for policy and oversight of the research and technology programs, which span 16 Laboratories and Research, Development and Engineering Centers, employs nearly 12,000 scientists and engineers and had a yearly budget that exceeded \$2.4 billion. Ms. Miller was charged with identifying, developing, and demonstrating technology options that informed and enabled effective and affordable capabilities for Soldiers. She was also responsible for developing an S&T strategy responsive to Army needs- near term (5 years) to far term (more than 20

years). Her S&T portfolio covered basic research through the development and demonstration of components, subsystems, Manufacturing Technology, and technology system prototypes.

Between 2010-2013, Ms. Miller served as the Deputy Program Executive Officer for Soldier, where she was the principal civilian for the Department of the Army responsible for the design, development, procurement, fielding, and sustainment of a portfolio with more than 460 products/systems and a \$3 billion budget. Her work encompassed virtually everything a Soldier wears or carries. From 2005-2010, Ms. Miller served as the Director for Technology, within the Office of the Assistant Secretary of the Army for Acquisition, Logistics and Technology. She was responsible for oversight and coordination of Army's S&T efforts to transition technology in support of acquisition programs.

Ms. Miller received a B.S. in Electrical Engineering from the University of Washington, an M.S. in Electrical Engineering, Electro-Physics, from George Washington University, and an M.B.A. from the University of Tennessee. She was selected in 2005 to the Senior Executive Service and is Defense Acquisition Workforce Level III certified in Program Management; Engineering; and Science and Technology Management.

NOTES

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



UK – US – CANADA – AUSTRALIA QUADRILATERAL

The National Defense Industrial Association, along with our Quad partners ADS, CADSI and AIDN, invite you to attend the fall 2019 Quadrilateral Conference. Join us in London before the DSEI Conference as companies from the United States, United Kingdom, Canada and Australia collaborate on the best policies and practices that address issues common to all stakeholders. Experts from these nations will speak directly to past protocols and give recommendations for enhanced and safer trade policy.

September 9, 2019 | London, UK | [NDIA.org/Quad](https://ndia.org/Quad)





GEOPOLITICAL SCENE SETTER



HON Alan R. Shaffer

Deputy Under Secretary of Defense for Acquisition and
Sustainment

May 16, 2019



Acquisition & Sustainment (A&S)



Mission

The Office of the Under Secretary of Defense for Acquisition and Sustainment provides policy and governance, for the Department of Defense and the national security innovation base, that enables the delivery and sustainment of critical capabilities to U.S. Service Members and allies.



Best Possible Operational Capability for the Taxpayer Dollar





National Defense Strategy (NDS)



Line of Effort (LOE) 1

- Build a More Lethal and Ready Force

LOE 2

- Strengthen Alliances and Attract New Partners

LOE 3

- Reform the Department for Greater Performance and Affordability

“No change to the priorities, no change to the strategy. It's really, you know, go faster on the implementation and the execution.”

HON Patrick Shanahan,
Acting Secretary of Defense
Press Briefing, 29 Jan 2019



What has Changed

Counter Insurgency ➡ Era of Great Power Competition

Need High End Systems and Capacity



Pressure Points – Russia / China



- Rapidly Increasing Defense Capabilities in Both Russia and China Under Different Rule
- Chinese Competition Three Dimensional
 - Illegal – Theft of Intellectual Property
 - Intense – Good Products For Less
 - Unfair – Demanding firms Give Away Technology for China's Vast Market



Source: The Economist, 23 September 2017



Strategy of National Security of Russian Federation 31 Dec 2015



“The buildup of the military potential of the North Atlantic Treaty Organization (NATO) and vesting it with global functions implemented in violations of norms of international law, boosting military activity of the bloc’s countries, further expansion of the alliance, the approach of its military infrastructure to Russian borders create a threat to the national security.”



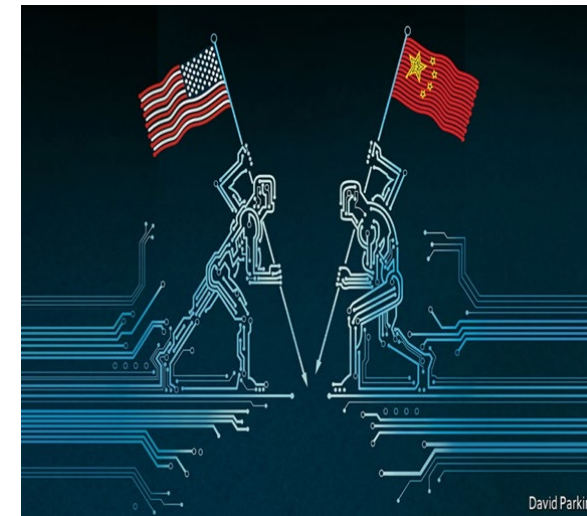


Battle for Digital Supremacy



■ Why It Matters

- Future Warfare Will Rely on Speed of Decision, not Size of Bicep
- Artificial Intelligence (AI) Data Mining will Help Speed Decision



Source: The Economist,
12 January 2017

Our military is in a high-stakes race to harness the power of data, a revolution that may make previous leaps in military technology — think radar, nuclear power, or space — seem trifling in comparison.

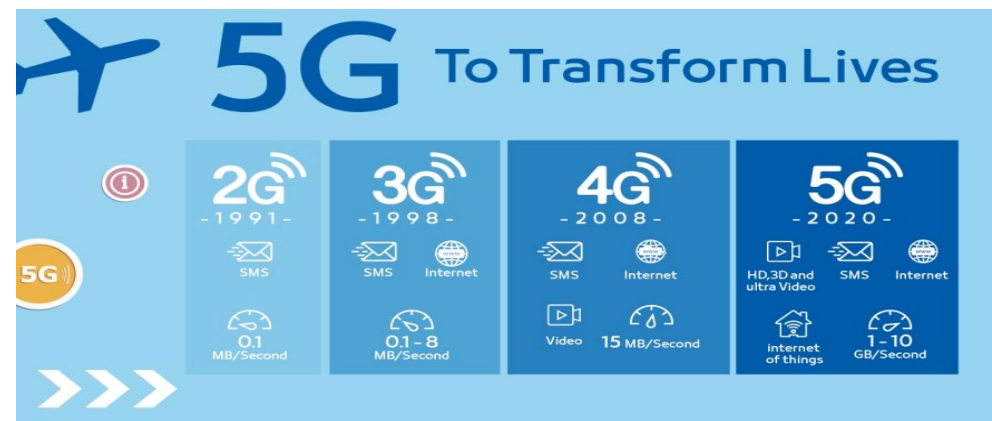
- Admiral Bill Moran, 2 April 2019



The Next Battle Ground



- **The Next Battle Ground – 5G**
 - 5G Enables Digital Supremacy
 - Lack of Assured 5G Lessens National Security





Join the Discussions



I Encourage Swedish Firms That Have U.S. Based Subsidiaries Like Ericsson To Join The National Spectrum Consortium So They Can Partake In The Discussions



A&S FY 2019 Priorities



“Our commitment is to share policies, procedures, and lessons learned that give our military the flexibility they need to be innovative and lethal.”

HON Ellen M Lord,
Under Secretary of Defense for A&S
November 28, 2018

Acquisition at the Speed of Relevance



NDS LOE 1

Increase Lethality



- Improve F-35 Program Execution
- Modernize the Nuclear Deterrent





Cooperation / Partnership



- Saab / Boeing Partnership
- Combat Vehicle 90 (CV90)
- NAMMO
- Raytheon – Thank You!



National Defense Strategy Capability Development Approach

**17th U.S.-Sweden Defense
Industry Conference**

May 16, 2019,

**Jim Mitre, Senior Vice
President for Strategy &
Analysis, Govini**

National Defense Strategy

- **Prioritize China and Russia**
 - Address North Korea, Iran, Terrorism
- **Maintain favorable regional balance of power in key theaters**

Operational Dynamics

- **Problem: Eroding military advantage vis-à-vis China and Russia**
 - Undermines ability to deter aggression and coercion in key regions
- **Solution: Combat-credible forward forces**
 - Blunt adversary aggression

Attributes of Future Force

- **Lethal:** destroy massed enemy forces in contested domains from outset of conflict
- **Resilient:** sustain operations while under sophisticated multi-domain attacks
- **Agile:** move quickly and unpredictably
- **Ready:** fight on short or no notice

Priority Capabilities

- Nuclear forces
- Space and cyberspace as warfighting domains
- Command, control, communications, computers and intelligence, surveillance, and reconnaissance (C4ISR)
- Missile defense
- Joint lethality in contested environments
- Forward force maneuver and posture resilience
- Advanced autonomous systems
- Resilient and agile logistics

Approach

“Success no longer goes to the country that develops a new technology first, but rather to the one that better integrates it and adapts its way of fighting.”

- 2018 National Defense Strategy



SWEDISH ARMED FORCES DEFENCE OUTLOOK 2035

BUILDING A STRONGER DEFENCE



FÖRSVARSMAKTEN



”

The Defence Outlook 2035 is the start of a journey towards a developed military capability.

This capability will be able to confront military threats and armed attacks on our country regardless of location.

In doing so we can contribute to peace and security in our region.

General Micael Bydén
Supreme Commander

LONG TERM TRENDS

Increased nationalism and protectionism

- Economic challenges
- Increased migration
- Violent extremism
- Rules based world order challenged

Technological advances

- AI, cyber, autonomy and more

Russian great power ambitions

- Advances its positions in the Baltic Sea region
- Does not hesitate to use military force for political ends



OPERATIONAL ENVIRONMENT

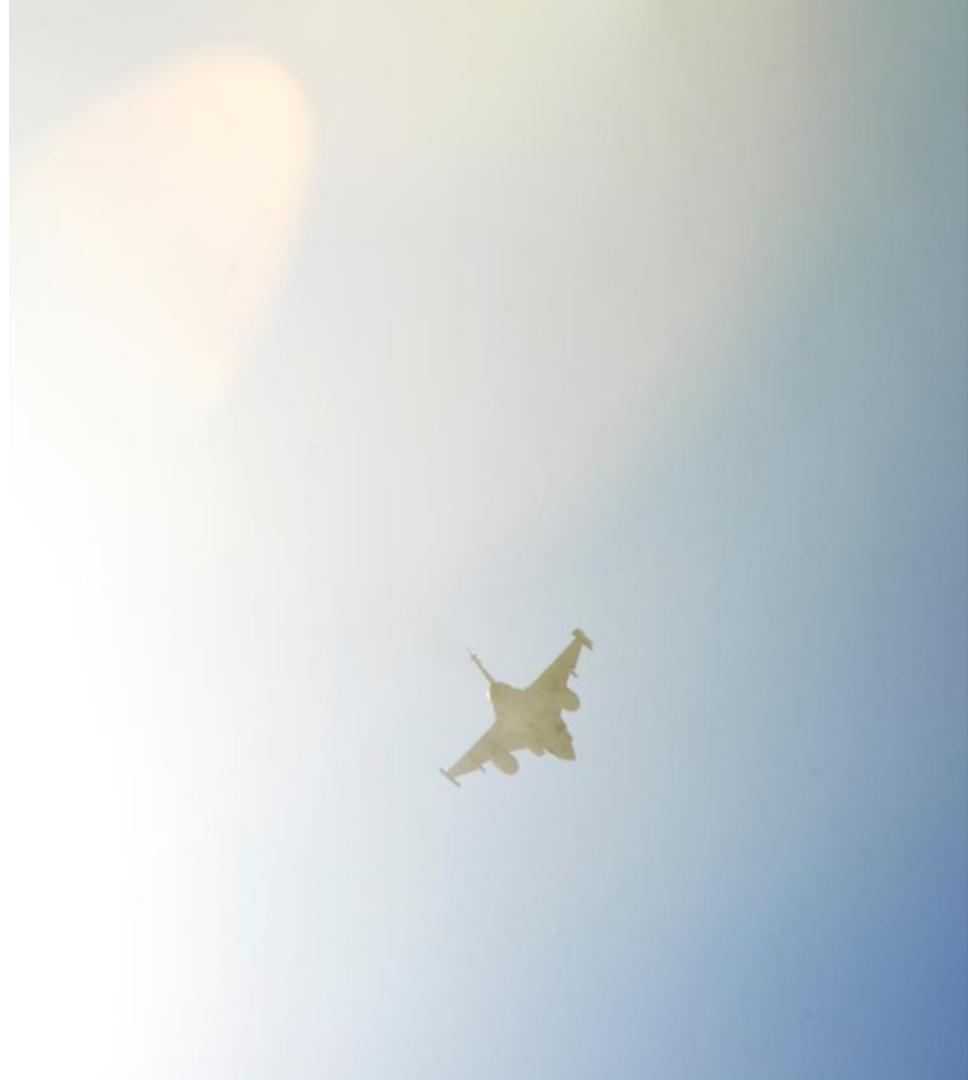
- The purpose and scale of a future conflict has changed
- Non-linear (hybrid) warfare against the wider society as a whole
 - A mix of state, commercial and private/individual actors
 - Exploitation of “the Grey zone” between peace and war – benefitting from ambiguity and non-attribution
- Dependency on technology and logistic flows increases vulnerability of society





TECHNOLOGY

- Remotely controlled and autonomous systems
- Cyber warfare against civilian and military targets
- Increased dependency on space based systems and increased complexity in space
- Long distance precision strike and hypersonic weapons
- Developments and combinations will provide new capabilities and applications
- Future operating environment will be shaped by technological advances
- **Battlespace temporal compression and spatial expansion**



EXAMPLES OF NEW EQUIPMENT

Army

- Improved capability and capacity in air defence
- Modern combat vehicles and tanks
- Improved capability in artillery and long distance precision fires
- Improved baseline equipment

Navy

- Additional of ships for anti-surface, anti-submarine and mine warfare as well as submarines
- Addition of medium range air defence and long distance precision fires
- Increase and development of unmanned and autonomous vehicles

Air Force

- Acquisition of 60 additional JAS 39 E
- Replacement of strategic transport aircraft and airborne early warning and control aircraft
- Acquisition of HALE and MALE UAVs



FÖRSVARSMAKTEN



S&T AREAS IN THE DEFENCE OUTLOOK

- Information Technology including Artificial Intelligence
- Cyber Capability
- Sensor Systems
- Platforms
- Future Soldier Systems – Human Performance Enhancement
- High Energy Weapons
- Autonomous Systems
- Material Science and Additive Manufacturing
- Hypersonic systems
- Space Capabilities
- Signature Adaptation Technology



FÖRSVARSMAKTEN

UNCLASSIFIED



U.S. - SWEDEN COOPERATION DEVELOPING FUTURE CAPABILITIES

Mr. Rick Quade SES
*Deputy Director, Innovation,
Technology Requirement, and
Test & Evaluation (N94B)*

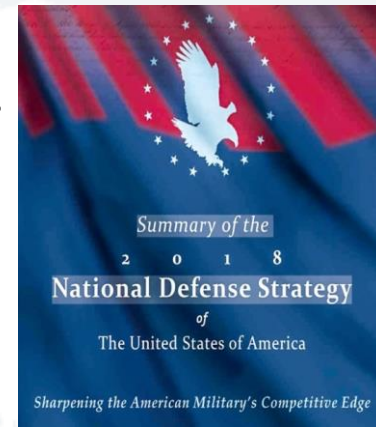
Presented at 17th US-Sweden Defense Industry Conference
May 16, 2019

UNCLASSIFIED-Distribution Statement A

National Defense Strategy

As we expand the competitive space, we must:

- 1) Be strategically predictable, but operationally unpredictable.
- 2) Integrate with U.S. interagency.
- 3) Counter coercion and subversion.
- 4) Foster a competitive mindset.



We will expand the competitive space while pursuing three distinct lines of effort:

- 1) Restore military readiness as we build a more lethal force
- 2) Strengthen alliances and attract new partners
- 3) Bring business reforms to the Department of Defense

CNO Perspective

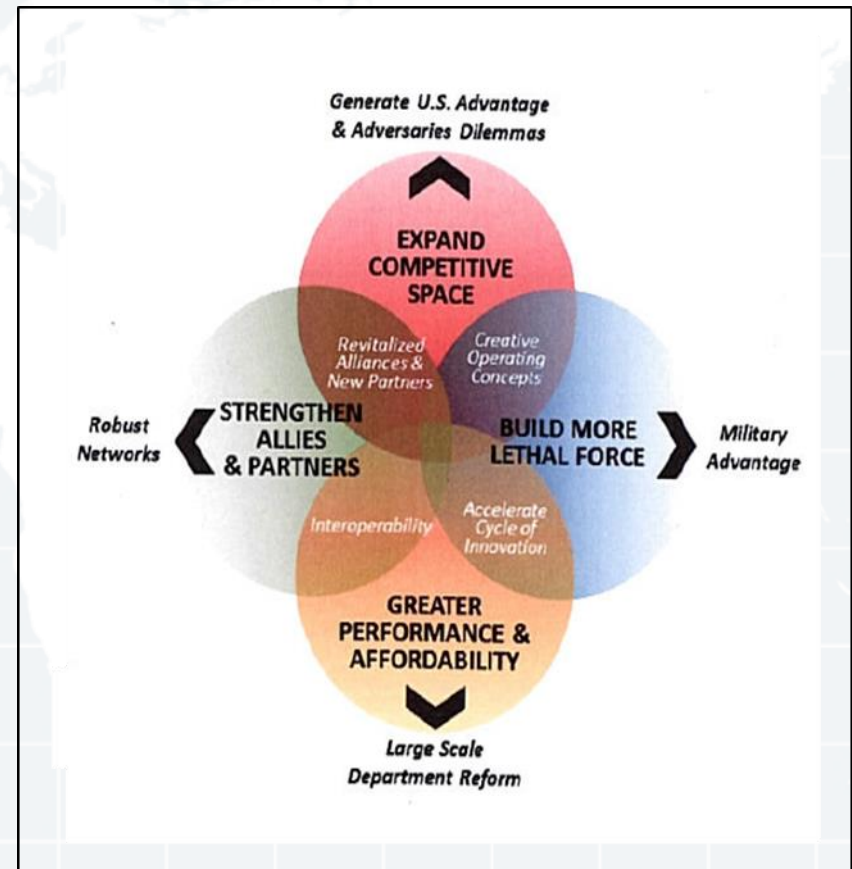
“We must grow, yes. But we must also implement new ways of operating our battle fleet, which will comprise new types of ships. The clear conclusion is that linear expansion and improvement will not achieve the exponential pace that will enable us to win in the future.”

***Admiral John Richardson, Chief of Naval Operations
May 17, 2017***



NDS Ways (Strategic Approach)

- **Expand** the competitive space
- **Rebuild** military readiness as we build a more lethal Joint Force
- **Strengthen** alliances as we attract new partners
- Reform DoD's business practices for greater performance and affordability

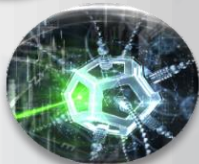


Research & Development Priorities

*Augmented
Warfighter*



*Integrated &
Distributed Forces*



*Operational
Endurance*



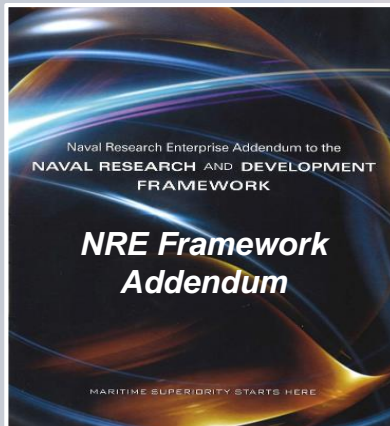
*Scalable
Lethality*



*Sensing &
Sense-Making*



**Five Framework Priorities
that are Strategic and
Warfighter-Focused...**



**...Translates to Six
Technology-Focused
Integrated Research Portfolios**



*Amphibious
Expeditionary Maneuver*



*Information, Cyber &
Spectrum Superiority*



*Undersea
Battlespace &
Maritime Domain
Access*



*Mission Capable,
Persistent &
Survivable
Sea Platforms*



*Warfighter
Supremacy*



*Aviation, Force Projection
& Integrated Defense*

US-SWE Opportunities

- US & SWE partner on S&T and SNR opportunities
- USN & SWE have established IEAs
- US & SWE also partner multi-laterally through NATO
- Throughout the year, US & SWE stakeholders engage in technical and programmatic conversations related to multiple areas of collaboration
- Focused Workshops are conducted to discuss, consider and prioritize collaboration efforts
- Academic Collaboration (Grants)
 - Warfighter Supremacy
 - Assure Access to the Maritime Battlespace
- Potential areas of collaboration
 - Mine Countermeasures
 - Undersea Surveillance and Communications
 - Autonomy
 - Command & Control
 - Communications



Questions?



Providing Innovation for Technological Superiority

Mary J. Miller

Principal Deputy

**Director Defense Research & Engineering
for Research & Technology**

**U.S. – Sweden Defense Industry Conference
Washington, D.C. | May 16, 2019**

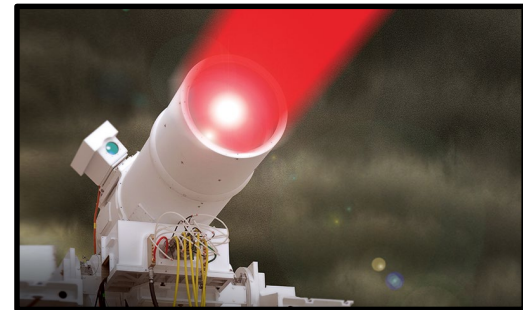
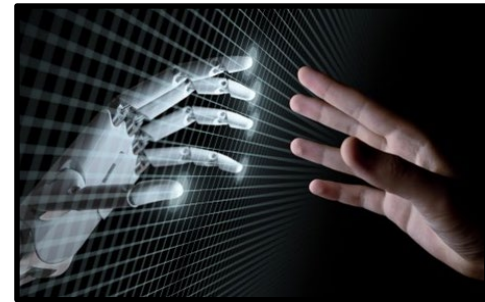




Return to Great Power Competition



- Reemergence of long-term, strategic competition
 - Revisionist powers: China and Russia
- U.S. technological advantage is eroding
 - Adversaries are moving to next generation capabilities across all domains
- Rapid technological advancements are changing the character of war
 - Lower barriers to entry
 - New technologies
 - New ways to fight



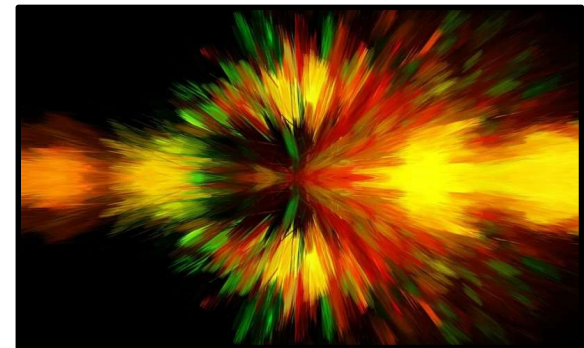
“...innovations that drive military and economic competitiveness will increasingly originate outside the United States...”

– 2019 Director, National Intelligence Worldwide Threat Assessment



The Opportunity

- Success goes to the country that better integrates and adapts to new technology
- US will continue to rely on technology to offset disadvantages in mass and logistical challenges of fighting in other theaters
- Organization and culture
 - Coincides with historic need for advanced, innovative capabilities to maintain and widen our technological edge
 - S&T community currently enjoys broad support and desire for us to succeed



The currency of today's strategic competition is technology



2017 National Defense Authorization Act (NDAA), §901

Organization of the Office of the Secretary of Defense

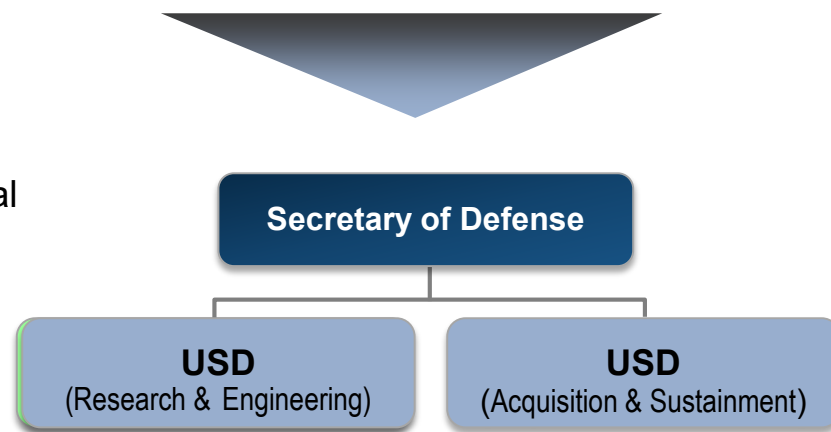
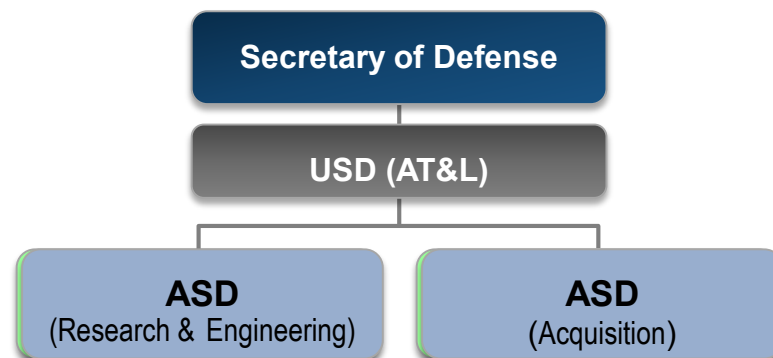
“Establish policies on, and supervising...”:

Undersecretary of Defense (R&E)

- Defense research and engineering
- Technology development
- Technology transition
- Prototyping
- Experimentation
- Developmental testing activities and programs...
- Allocation of resources for defense research and engineering
- Unifying defense research and engineering efforts across the DoD

Undersecretary of Defense (A&S)

- Acquisition policy
 - system design, development, and production
 - procurement of goods and services
- Sustainment policy
 - logistics
 - maintenance
 - materiel readiness
- Defense industrial base policy
- Materials critical to national security
- Contract administration policy
- Modernization of nuclear forces
- Development of counter-WMD capabilities





National Defense Strategy

Lines of Effort



- Build a More Lethal Force
- Strengthen Alliances and Attract New Partners
- Change the Way We Do Business



“A more lethal force, strong alliances and partnerships, American technological innovation, and a culture of performance will generate decisive and sustained U.S. military advantages.” – National Defense Strategy



Focus on Modernization



- The U.S. is now **challenged to strike any adversary at will**
- **Equal access to** emerging **technologies**, such as autonomy, artificial intelligence and synthetic biology, will disrupt future conflicts
- The U.S. still possesses the best military, however our **adversaries' deliberate actions mandate change** in what we buy and how we operate
- We **must develop new lethal capabilities** and **accelerate the pace** in which we get that capability **to the warfighter**





Space Development Agency

**Strategic
Intelligence
Analysis Cell**

**Defense
Innovation
Unit**

**Strategic
Capabilities
Office**

Missile Defense Agency

**Defense Advanced
Research Projects
Agency**

**Director of Defense
Research & Engineering
(Research & Technology)**

Assistant Directors

**Director of Defense
Research & Engineering
(Advanced Capabilities)**

Assistant Directors

Research, Technology & Labs

Strategic Technology Protection & Exploitation

**Engineering
(Chief Engineer)**

Developmental Test, Evaluation & Prototyping



Regaining Technological Superiority



These modernization priority areas magnify the Department's **technical dominance** and support the objectives set forth by the Secretary of Defense and the **National Defense Strategy**.

Modernization Priorities

- Hypersonics (HS)
- Fully Networked Command, Control and Communication (FNC3)
- Directed Energy (DE)
- Cyber
- Space
- Quantum Science (QS)
- Machine Learning / Artificial Intelligence (ML/AI)
- Microelectronics (ME)
- Autonomy
- Biotechnology

Each focus area is assigned an Assistant Director or Technical Director who functions as the Under Secretary's lead expert on that technology priority



Allied Prototyping Initiative

- Develop cooperative prototyping projects to provide leap-ahead capabilities in the 5-7 year time horizon focused on the top 10 modernization priorities
- Secure OUSD(R&E) funding and partner nation funding for selected projects, negotiate Project Arrangements (PAs), and staff PA's for approval to completion
- Supports SECDEF's National Defense Strategy to maintain a military competitive advantage in all three Lines of Effort:
 - *Build a more lethal force* through rapid prototyping in modernization technology areas
 - *Strengthen alliances* through cooperative development of equipment to inherently deepen interoperability with participating allies & partners
 - *Reform the department for greater performance and affordability* through leveraging and coordinating allied R&D funding towards shared defense capability needs



Maintaining Technological Superiority



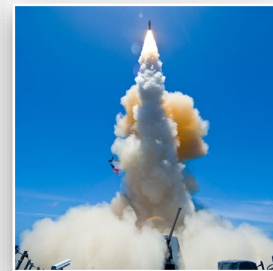
- The U.S. military has long relied on **high quality people, technological superiority, innovative operational and organizational constructs**, and our **unmatched ability to fight** both as a **Joint Force** and within **Coalitions**
- We are addressing the erosion of technological superiority by identifying and investing in **innovative technologies and processes**
- We are pushing the envelope with **innovative and cutting edge research**
- Beyond technical innovation, we are pursuing **new practices and organizational structures** to ensure future U.S. technical dominance
- From **basic research to developmental prototypes to programs of record**, the DoD R&E enterprise provides the **technological foundations** that ensures our military of the future remains the **most capable in the world**

DoD R&E Enterprise: Solving Problems Today – Designing Solutions for Tomorrow



DoD Research and Engineering Enterprise

Solving Problems Today – Designing Solutions for Tomorrow



DoD Research and Engineering Enterprise
<https://www.CTO.mil/>

Defense Innovation Marketplace
<https://defenseinnovationmarketplace.dtic.mil>

Twitter
@DoDCTO



Providing Innovation for Technology Superiority

Dr Eva Dalberg, Swedish Defence Research Agency FOI

Aeronautical Systems and Air Combat
Simulation

CBRN issues and Non-proliferation

Crisis Preparedness and the Safety &
Security of Society

Decision Support Systems and Information
Fusion

Electronic Warfare

Information Security & Communication

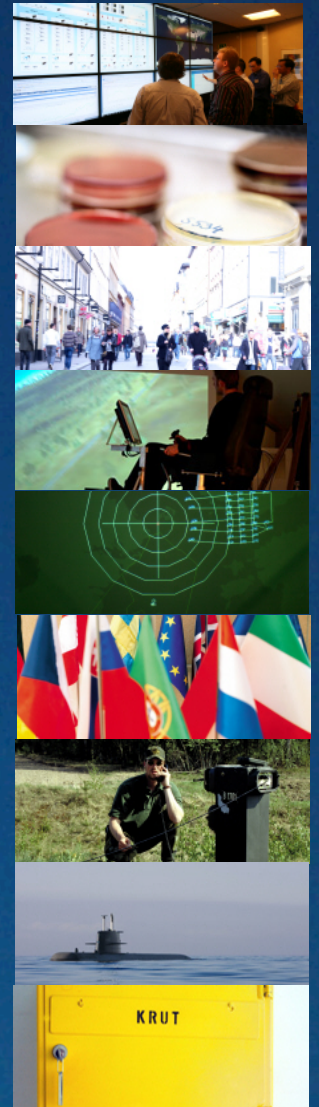
Methodological and Investigative Support

Security Policy

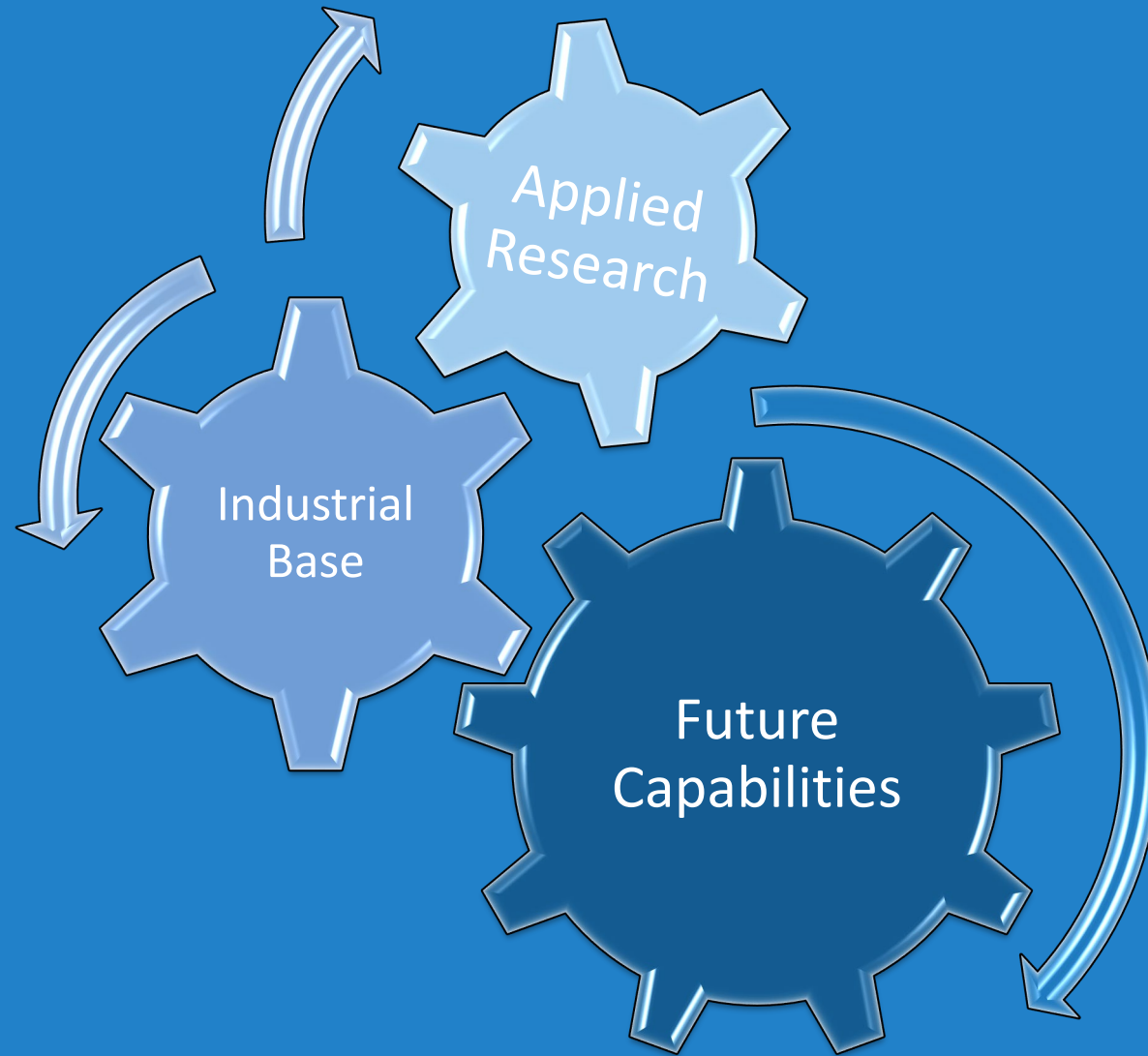
Sensors & Signatures

Underwater Technology

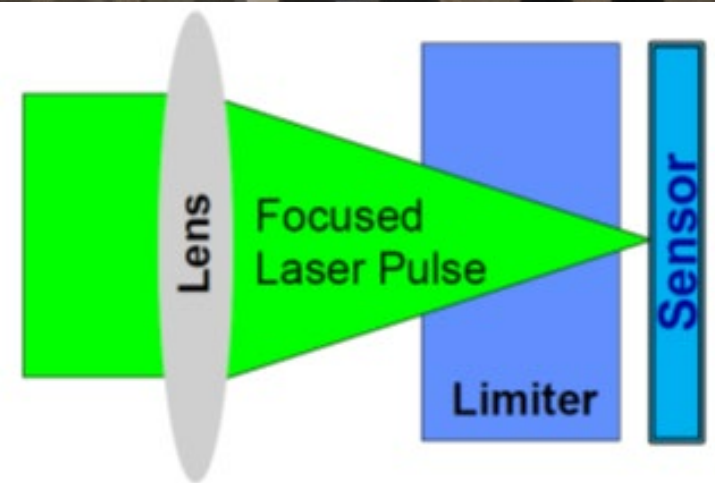
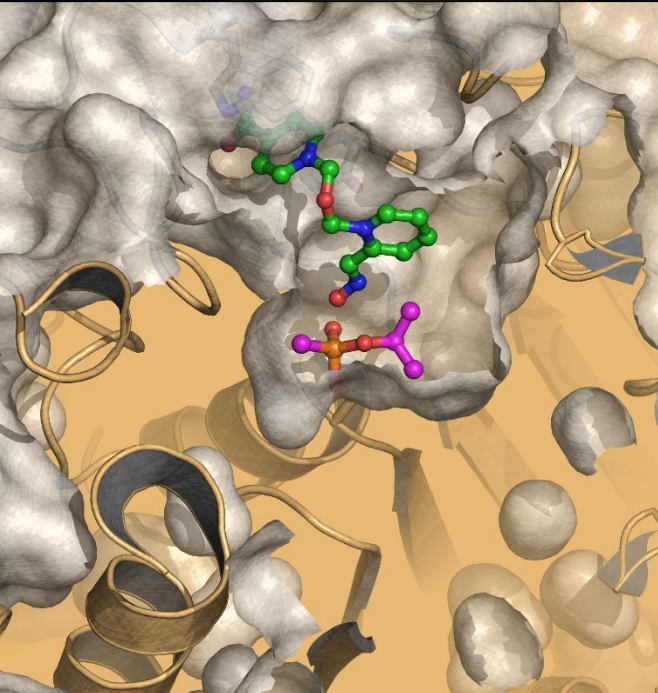
Weapons & Protection













Swedish Defence Research Agency

foi.se