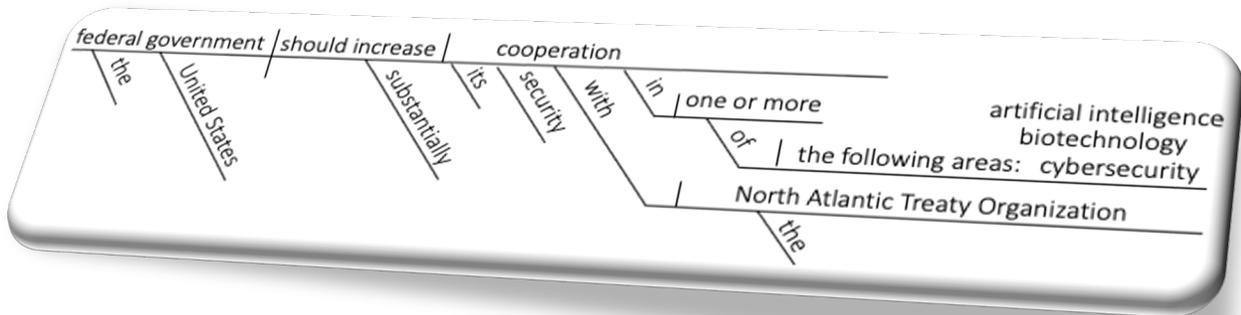


DEFINITIONS OF TERMS ON THE NATO/EMERGING TECHNOLOGIES TOPIC

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The 2022-23 Interscholastic Debate Resolution: *The United States federal government should substantially increase its security cooperation with the North Atlantic Treaty Organization in one or more of the following areas: artificial intelligence, biotechnology, cybersecurity.*



The resolution on the NATO/emerging technologies topic originated with a proposal submitted by Peter Crevoiserat, Luke Brinker-Lev, and Pam McComas. Peter Crevoiserat is the forensics coach at Wichita Northwest High School in Wichita, Kansas; Luke Brinker-Lev is a former debater at Topeka High School in Topeka, Kansas; and Pam McComas, now retired, was the director of forensics at Topeka High School in Topeka, Kansas. The topic authors and the members of the Topic Selection Committee Wording Committee jointly wrote a topic paragraph for inclusion on the ballot. The paragraph for the water policy topic follows:

TOPIC PARAGRAPH AS INCLUDED ON THE 2022-23 BALLOT: A useful index of the intent of the topic framers is provided by the paragraph which is sent along with the topic selection ballot. The authors of the topic proposal and the members of the Wording Committee jointly wrote this paragraph.

The paragraph on the ballot for the NATO/emerging technology topic follows:

Most Bond films open with 007 in the middle of some major crisis with the audience waiting for the opportunity of Q's new technology to resolve the conflict. However, emerging technology like AI, biotechnology, and cybersecurity, can be easily created, intercepted, and used by the "enemy". Clearly, the U.S. and its allies need to collaborate for the best solution.

Possible case affirmatives would be creating a U.S.-NATO emerging technology investment fund; instituting a NATO treaty on autonomous weapons; increasing cooperation in biotechnology (e.g., on vaccine diplomacy, biofuels investment, or agricultural biotech cooperation); establishing a new U.S.-NATO infrastructure for thwarting and responding to cyber threats; banning offensive cyber operations; and forging U.S.-NATO partnerships with private technology companies to bolster the alliance's leadership in emerging technologies. These emerging technologies are vulnerable to outside threats.

The negative will have multiple strategies. These technologies create case specific disadvantages generating specific links and turns. Theoretical discussions of offensive and defensive cyber weapons, the effectiveness of deterrence, the role of the U.S. as a hegemon, and global politics will be popular. Economic repercussions and interdependence of the global economy will be key. Negatives can argue alternative methods of engagement by using public/private non-military partnerships. Various perspectives on philosophically driven arguments will be intrinsic. The voices of the disenfranchised will be argued. A diverse set of arguments creates a level playing field for all students by debating emerging technologies. This topic affords students from across the nation in

rural and urban areas from coast to coast, with ample research and provides scaffolded skills' development.

The topic is broad, but the strength in it is the balance of affirmative and negative material. Debaters will gain experience in a well-rounded understanding of how emerging technologies are reshaping society, the advantages and disadvantages of different policy approaches, and how the issues surrounding emerging technologies will shape the global security agenda for decades to come. Students' knowledge of how crisis and opportunity work, with a collaborative approach to the solution, are essential skills for life.

Usually, the topic paragraph has very little influence on topicality debates – such matters are typically left to the arguments made by debaters in each individual round of policy debate. However, it may be significant to note that the topic authors and the members of the Wording Committee specifically mentioned affirmative cases such as vaccine diplomacy and banning offensive cyber operations.

TOPICALITY VIOLATIONS THAT SHOULD BE ANTICIPATED:

Note: Below is the list of topicality violations supported with evidence and argument in Volume 3 of the Baylor Briefs "Topicality Casebook" prepared by Dr. Ryan Galloway of Samford University. If you wish to explore the evidence and brief structure supporting each of the following topicality violations, consult the Topicality Casebook.

1. Security cooperation requires the building up of foreign security forces.

This Topicality argument states that the word security cooperation in the resolution means the affirmative plan must build up foreign security forces. Many teams may be tempted to take actions that deal with the emerging technologies in a civilian manner, such as increasing the peaceful uses of biotechnology in areas like vaccine development or gene editing. According to this definition, such cases would be not topical.

2. Security cooperation must be conducted by the Department of Defense.

This Topicality argument states that the agent of action of the affirmative plan must be the Department of Defense. Many teams will be tempted to deal with security cooperation through presidential action, Congressional action, or one of the myriad of executive agencies of the United States federal government. This interpretation says the agent of action must be the Department of Defense, allowing the negative team to research disadvantages and solvency attacks against the DOD as an agent.

3. Cooperation requires that both sides want the end that is achieved.

This Topicality argument states that the affirmative plan must work toward a goal that both the United States and NATO support. Many teams may be tempted to negotiate with NATO toward some end that all the NATO members do not support. This is not cooperation, but mere dialogue.

4. In the area means throughout the area.

This Topicality argument states that the affirmative plan must deal with the entire area of one of the emerging technologies, and not pick an esoteric or unfamiliar technology to base their plan around. A fear on this topic is that it will devolve into the technology of the week, where affirmatives pick one obscure technology in artificial intelligence, biotechnology, or cybersecurity to constantly write new plans that the negative will be unprepared for. This violation helps combat such squirrel cases, forcing the affirmative to adopt a standard or regulation for the entire area of one of the emerging technologies.

5. Artificial intelligence: referring to a computer system capable of human level cognition.

This Topicality argument states that the affirmative plan must deal with computer systems capable of human level cognition. Many teams may wish to deal with any kind of computer technology and call it artificial intelligence. This violation will prevent them from doing so.

6. Biotechnology: the processing of materials made by biological agents.

This Topicality argument states that the affirmative plan must deal with technology made from the processing of materials made by biological agents. The affirmative may be tempted to label any kind of technology biotechnology, which would unlimit the topic. This violation requires that they meet the definition of biotechnology provided by the Organization of Economic Cooperation and Development..

7. *Cybersecurity: to protect networks and devices from unauthorized access or criminal use.*

This Topicality argument states that the affirmative plan must deal with efforts to protect networks and devices from unauthorized use. The affirmative may be tempted to deal with anything related to computers or technology. This violation limits the affirmative to dealing with efforts to secure networks from unauthorized use.

8. *With—requiring action in coordination—unilateral actions are not topical.*

This Topicality argument states that the affirmative plan must work with the North Atlantic Treaty Organization to take an action, and not just take a unilateral action. Some teams may be tempted to try to avoid disadvantages dealing with cooperation with NATO by taking a unilateral action toward NATO. Such actions are distinct from cooperating with NATO to a cooperative end.

9. *With means exclusively with—cooperation with actors other than the us and nato is not topical.*

This Topicality argument states that the affirmative plan must work exclusively with NATO, and not cooperate with another external actor. Some teams may be tempted to coordinate the plan with additional actors like the United Nations or the International Criminal Court in order to create an international standard to regulate emerging technologies. Such actions are not with NATO, but instead make NATO one actor among many actors.

10. *“Substantially” means dealing with substance and not procedure.*

This Topicality argument states that the affirmative plan must deal with substantive actions with NATO, and not procedural actions like consultation with NATO or informing NATO of the action the affirmative has taken. Many teams may be tempted to tinker with the procedures by which NATO operates, instead of taking a substantive action to change what NATO does with emerging technologies. Such actions do not substantially cooperate with NATO and should thus be rejected.

11. *“Substantially” means without qualification—Cases that condition the plan on a response from nato are not topical.*

This Topicality argument states that the affirmative plan must cooperate with NATO without conditions. Many teams may be tempted to put various conditions on cooperation with NATO, such as that all member nations agree to the action, that NATO nations agree to increase the percentage of their GDP on defense spending, or that NATO be willing to reciprocate the action in some way. Such conditions make the plan an insubstantial increase in security cooperation.

12. *“Increase:” The affirmative plan must increase existing cooperation with NATO.*

This argument states that the affirmative plan must increase presently existing cooperation with NATO and not create cooperation on a new technology. Many affirmative teams may wish to create new regulations on a previously unregulated technology. However, this would not be an increase in cooperation it would create cooperation on something new.

UNITED STATES FEDERAL GOVERNMENT

Federal government means the central government in Washington, D.C.

Amy Blackwell, (J.D., Staff, U. Virginia Law Library), THE ESSENTIAL LAW DICTIONARY, 2008, 187. Federal: Relating to the central government of a union of states, such as the national government of the United States.

Carol-June Cassidy, (Editor), CAMBRIDGE DICTIONARY OF AMERICAN ENGLISH, 2nd Ed., 2008, 308. Federal government: of or connected with the central government

Maurice Waite, (Editor), OXFORD DICTIONARY & THESAURUS, 2007, 377. Federal government: relating to the central government of a federation.

Michael Agnes, (Editor), WEBSTER’S NEW WORLD DICTIONARY, 4th College Edition, 2007, 290. Federal government: Of the central government.

Susan Spitz, (Sr. Editor), AMERICAN HERITAGE DICTIONARY OF THE ENGLISH LANGUAGE, 4th Ed., 2006, 647. Federal: The central government of the United States.

SUBSTANTIAL

“Substantially” means “important.”

Amy Blackwell, (J.D., Staff, U. Virginia Law Library), THE ESSENTIAL LAW DICTIONARY, 2008, 477. Substantial: Important, large, considerable, valuable.

Christine Lindberg, (Editor), OXFORD COLLEGE DICTIONARY, 2nd Ed., 2007, 1369. Substantially: Important in material or social terms.

Elizabeth Jewell, (Editor), THE OXFORD DESK DICTIONARY AND THESAURUS, 2nd Ed., 2007, 835. Substantially: Of real importance, value, or validity.

Elizabeth Jewell, (Editor), THE OXFORD DESK DICTIONARY AND THESAURUS, 2nd Ed., 2007, 835. Substantially: Essential; true in large part.

Maurice Waite, (Editor), OXFORD DICTIONARY & THESAURUS, 2007, 1032. Substantially: of great importance, size, or value.

“Substantially” means “large in size.”

Carol-June Cassidy, (Editor), CAMBRIDGE DICTIONARY OF AMERICAN ENGLISH, 2nd Ed., 2008, 873. Substantially: large in size, value, or importance

“Substantially” means “to a large degree.”

Carol-June Cassidy, (Editor), CAMBRIDGE DICTIONARY OF AMERICAN ENGLISH, 2nd Ed., 2008, 873. Substantially: to a large degree

Michael Agnes, (Editor), WEBSTER’S NEW WORLD DICTIONARY, 4th College Edition, 2007, 780. Substantial: Material, strong, large.

“Substantially” means “essential.”

Christine Lindberg, (Editor), OXFORD COLLEGE DICTIONARY, 2nd Ed., 2007, 1369. Substantially: Concerning the essentials of something.

Elizabeth Jewell, (Editor), THE OXFORD DESK DICTIONARY AND THESAURUS, 2nd Ed., 2007, 835. Substantially: Essentially, at bottom, fundamentally, basically, in essence, intrinsically.

Maurice Waite, (Editor), OXFORD DICTIONARY & THESAURUS, 2007, 1032. Substantially: concerning the essential points of something

Maurice Waite, (Editor), OXFORD DICTIONARY & THESAURUS, 2007, 1032. Substantially: in essence, basically, fundamentally

Michael Agnes, (Editor), WEBSTER’S NEW WORLD DICTIONARY, 4th College Edition, 2007, 780. Substantial: In essentials.

“Substantially” means “real and not imaginary.”

Christine Lindberg, (Editor), OXFORD COLLEGE DICTIONARY, 2nd Ed., 2007, 1369. Substantially: Of considerable importance, size, or worth.

Christopher Leonesio, (Managing Editor), AMERICAN HERITAGE HIGH SCHOOL DICTIONARY, 4th Ed., 2007, 1376. Substantial: True or real; not imaginary.

Maurice Waite, (Editor), OXFORD DICTIONARY & THESAURUS, 2007, 1032. Substantially: real and tangible rather than imaginary.

“Substantially” means more than 25%.

Federal Tax Regulation, Section 1.409A-3(j)6, INCOME TAX REGULATIONS (Wolters Kluwer Business Publication), 2008, 723. For this purpose, a reduction that is less than 25% of the deferred amount in dispute is not a substantial reduction.”

“Substantially” means more than 5%.

Law Insider, 2020. Retrieved May 21, 2020 from <https://www.lawinsider.com/dictionary/substantial-amount>. Substantial Amount means any securities of the Corporation having a then fair market value of more than 5% of the Corporation's consolidated capital accounts as of the end of the then preceding fiscal year.

“Substantially” means “without material qualification.”

BLACK’S LAW DICTIONARY, Feb. 5, 2014. Retrieved May 10, 2017 from <https://www.novoco.com/notes-from-novogradac/close-enough-how-measure-substantially-similar-under-fasbs-new-lihtc-investment-guidance>. Substantially: Essentially; without material qualification; in the main; in substance, materially; in a substantial manner

“Substantially” means “having substance.”

Christopher Leonesio, (Managing Editor), AMERICAN HERITAGE HIGH SCHOOL DICTIONARY, 4th Ed., 2007, 1376. Substantial: Of, relating to, or having substance.

“Substantially” means “valuable.”

Christopher Leonesio, (Managing Editor), AMERICAN HERITAGE HIGH SCHOOL DICTIONARY, 4th Ed., 2007, 1376. Substantial: Considerable in importance, value, degree, amount, or extent.

Daniel Oran, (Assitant Dir., National Paralegal Institute & J.D., Yale Law School), ORAN’S DICTIONARY OF THE LAW, 4th Ed., 2008, 510. Substantial: Valuable, real, worthwhile.

“Substantially” means “a lot.”

Daniel Oran, (Assitant Dir., National Paralegal Institute & J.D., Yale Law School), ORAN’S DICTIONARY OF THE LAW, 4th Ed., 2008, 510. Substantial: “A lot,” when it’s hard to pin down just how much “a lot” really is. For example, substantial evidence is more than a mere scintilla or evidence but less than a full preponderance of evidence.

“Substantially” means “major.”

Maurice Waite, (Editor), OXFORD DICTIONARY & THESAURUS, 2007, 1032. Substantially: real, significant, important, major, valuable.

“Substantially” means “fundamental.”

Maurice Waite, (Editor), OXFORD DICTIONARY & THESAURUS, 2007, 1032. Substantially: fundamental, essential, basic.

“Substantially” means “large.”

Michael Agnes, (Editor), WEBSTER’S NEW WORLD DICTIONARY, 4th College Edition, 2007, 780. Substantial: Material, strong, large.

“Substantially” means “socially important.”

Christine Lindberg, (Editor), OXFORD COLLEGE DICTIONARY, 2nd Ed., 2007, 1369. Substantially: Important in material or social terms.

“Substantial” means “in substance” rather than “procedure.”

Merriam-Webster, 2020. Retrieved May 21, 2020 from <https://www.merriam-webster.com/legal/substantial%20right>. Legal Definition of substantial right : an important or essential right that merits enforcement or protection by the law : a right related to a matter of substance as distinguished from a matter of form

INCREASE

“Increase” is defined quantitatively.

Jean McKechnie, (Sr. Editor), WEBSTER’S NEW TWENTIETH CENTURY DICTIONARY, UNABRIDGED, 2nd Ed., 1979, 926. Increase: To become greater in size, quantity, value, degree, etc.

Erin McKean, (Sr. Editor), THE OXFORD AMERICAN DICTIONARY AND THESAURUS, 2003, 751. Increase: Advance in quality, attainment, etc.

Erin McKean, (Sr. Editor), THE OXFORD AMERICAN DICTIONARY AND THESAURUS, 2003, 751. Increase: To make or become greater in size, amount, etc., or more numerous.

Ian Brookes, (Sr. Editor), THE CHAMBERS DICTIONARY, 10th ed., 2006, 754. Increase: To grow in size or number.

Anne Soukhanov, (Editor), ENCARTA WORLD ENGLISH DICTIONARY, 1999, 912. Increase: The amount by which something is increased.

Carol-June Cassidy, (Editor), CAMBRIDGE DICTIONARY OF AMERICAN ENGLISH, 2nd Ed., 2008, 441. Increase: to become or make something larger or greater

Christopher Leonesio, (Managing Editor), AMERICAN HERITAGE HIGH SCHOOL DICTIONARY, 4th Ed., 2007, 702. Increase: To become greater or larger.

Elizabeth Jewell, (Editor), THE OXFORD DESK DICTIONARY AND THESAURUS, 2nd Ed., 2007, 415. Increase: Make or become greater or more numerous.

Frederick Mish, (Editor), WEBSTER'S COLLEGIATE DICTIONARY, 1998, 589. Increase: To become progressively greater (as in size, amount, number, or intensity).

Mairi Robinson, (Editor), CHAMBERS 21ST CENTURY DICTIONARY, 1996, 685. Increase: The amount by which something increases or is increased.

Bryan Garner, (Editor), BLACK'S LAW DICTIONARY, 2009, 835. Increase: The extent of growth or enlargement.

"Increase" can be from zero (meaning it can be new).

WORDS AND PHRASES, Vol. 20B, 2008, 265. Increase: Salary change of from zero to \$12,000 and \$1,200 annually for mayor and councilmen respectively was an "increase" in salary, and not merely the "fixing" of salary; thus, in absence of compliance with Home Rule Act provisions concerning increase in compensation of elected members of governing authority, mayor and councilmen were properly enjoined from receiving further compensation. Code, § 69-1019; Laws 1967, p. 3323. —King v. Herron, 243 S.E.2d 36, 241 Ga. 5

"Increase" can also be defined qualitatively.

Frank Abate, (Editor-in-Chief), THE OXFORD AMERICAN DICTIONARY AND LANGUAGE GUIDE, 1999, 496. Increase: Advance in quality, attainment, etc.

Frank Abate, (Editor-in-Chief), THE OXFORD AMERICAN DICTIONARY AND LANGUAGE GUIDE, 1999, 496. Increase: Intensify a quality

Anne Soukhanov, (Editor), ENCARTA WORLD ENGLISH DICTIONARY, 1999, 912. Increase: The make something or become larger in number, quantity, or degree.

Christine Lindberg, (Editor), OXFORD COLLEGE DICTIONARY, 2nd Ed., 2007, 687. Increase: Become or make greater in size, amount, intensity, or degree.

Elizabeth Jewell, (Editor), THE OXFORD DESK DICTIONARY AND THESAURUS, 2nd Ed., 2007, 415. Increase: Advance in quality, attainment, etc.

Stephen Bullon, (Editor), LONGMAN DICTIONARY OF CONTEMPORARY ENGLISH, 4th Ed., 2003, 824. Increase: If you increase something, or if it increases, it becomes bigger in amount, number, or degree.

"Increase" can mean to reproduce.

Christopher Leonesio, (Managing Editor), AMERICAN HERITAGE HIGH SCHOOL DICTIONARY, 4th Ed., 2007, 702. Increase: To multiply; reproduce.

Christopher Leonesio, (Managing Editor), AMERICAN HERITAGE HIGH SCHOOL DICTIONARY, 4th Ed., 2007, 702. Increase: To multiply; reproduce.

"Increase" means to enlarge, expand, or grow.

Bryan Garner, (Editor), BLACK'S LAW DICTIONARY, 2009, 835. Increase: The extent of growth or enlargement.

Sidney Landau, (Sr. Editor), CAMBRIDGE DICTIONARY OF AMERICAN ENGLISH, 2nd ed., 2008, 440. Increase: To become or make something larger or greater.

Ian Brookes, (Sr. Editor), THE CHAMBERS DICTIONARY, 10th ed., 2006, 754. Increase: Growth; increment; addition to the original stock.

Elizabeth Jewell, (Editor), THE OXFORD DESK DICTIONARY AND THESAURUS, 2nd Ed., 2007, 415. Increase: Build up, enlarge, amplify, expand

Sandra Anderson et al., (Editors), COLLINS ENGLISH DICTIONARY, 8TH Ed., 2006, 824. Increase: To make or become greater in size, degree, frequency, etc.; grow or expand.

“Increase” can refer to intensity.

Erin McKean, (Sr. Editor), THE OXFORD AMERICAN DICTIONARY AND THESAURUS, 2003, 751. Increase: Intensify a quality.

Maurice Waite, (Editor), OXFORD DICTIONARY & THESAURUS, 2007, 526. Increase: Become or make greater in size, amount, or intensity.

Mairi Robinson, (Editor), CHAMBERS 21ST CENTURY DICTIONARY, 1996, 685. Increase: To make or become greater in size, intensity, or number..

“Increase” means to extend.

Elizabeth Jewell, (Editor), THE OXFORD DESK DICTIONARY AND THESAURUS, 2nd Ed., 2007, 415. Increase: Build up, enlarge, amplify, expand

Maurice Waite, (Editor), OXFORD DICTIONARY & THESAURUS, 2007, 526. Increase: Intensify, strengthen, extend.

“Increase” means make bigger or greater.

Frank Abate, (Editor-in-Chief), THE OXFORD AMERICAN DICTIONARY AND LANGUAGE GUIDE, 1999, 496. Increase: To make or become greater in size, amount, etc.

Carol-June Cassidy, (Managing Editor), CAMBRIDGE DICTIONARY OF AMERICAN ENGLISH, 2d Ed., 2008, 441. Increase: To make something larger or greater.

Carol-June Cassidy, (Editor), CAMBRIDGE DICTIONARY OF AMERICAN ENGLISH, 2nd Ed., 2008, 441. Increase: to become or make something larger or greater

Christine Lindberg, (Editor), OXFORD COLLEGE DICTIONARY, 2nd Ed., 2007, 687. Increase: Become or make greater in size, amount, intensity, or degree.

Christopher Leonesio, (Managing Editor), AMERICAN HERITAGE HIGH SCHOOL DICTIONARY, 4th Ed., 2007, 702. Increase: To become greater or larger.

Elizabeth Jewell, (Editor), THE OXFORD DESK DICTIONARY AND THESAURUS, 2nd Ed., 2007, 415. Increase: Make or become greater or more numerous.

Maurice Waite, (Editor), OXFORD DICTIONARY & THESAURUS, 2007, 526. Increase: Make bigger, augment, supplement

Michael Agnes, (Editor), WEBSTER’S NEW WORLD DICTIONARY, 4th College Edition, 2007, 396. Increase: To make or become greater, larger.

Frederick Mish, (Editor), WEBSTER’S COLLEGIATE DICTIONARY, 1998, 589. Increase: The make greater.

“Increase” means to make more frequent.

Sandra Anderson et al., (Editors), COLLINS ENGLISH DICTIONARY, 8TH Ed., 2006, 824. Increase: To become more frequent.

ITS

Augustus Stevenson, (Editor), NEW OXFORD AMERICAN DICTIONARY, 3rd Ed., 2010, 924. Its: Belonging to or associated with a thing previously mentioned or easily identified.

Carol-June Cassidy, (Managing Editor), CAMBRIDGE DICTIONARY OF AMERICAN ENGLISH, 2nd Ed., 2008, 464. Its: Belonging to or connected with the thing or animal mentioned; the possessive form of it.

Frederick Mish, (Editor-in-chief), WEBSTER'S COLLEGIATE DICTIONARY, 10th ed., 1993, 623. Its: Of or relating to it or itself, esp. as possessor.

J Carol-June Cassidy, (Managing Editor), CAMBRIDGE DICTIONARY OF AMERICAN ENGLISH, 2nd Ed., 2008, 464. Its: Belonging to or connected with the thing or animal mentioned; the possessive form of it.

J Frederick Mish, (Editor-in-chief), WEBSTER'S COLLEGIATE DICTIONARY, 10th ed., 1993, 623. Its: Of or relating to it or itself, esp. as possessor.

Jean McKechnie, (Sr. Editor), WEBSTER'S NEW TWENTIETH CENTURY DICTIONARY, UNABRIDGED, 2nd Ed., 1979, 977. Its: Of, or belonging to, or done by it.

Justin Crozier, (Editor), COLLINS DICTIONARY AND THESAURUS, 2005, 448. Its: Of or belonging to it.

Sandra Anderson, (Editor), COLLINS ENGLISH DICTIONARY, 8th Ed., 2006, 867. Its: Belonging to, or associated in some way with.

Stuart Fle xner, (Editor-in-chief), RANDOM HOUSE DICTIONARY OF THE ENGLISH LANGUAGE, UNABRIDGED, 2nd Ed., 1987, 1017. Its: The possessive form of it.

J Sandra Anderson, (Editor), COLLINS ENGLISH DICTIONARY, 8th Ed., 2006, 867. Its: Belonging to, or associated in some way with.

SECURITY

" Security " refers to safeguarding computers.

Alan Freedman, (Pres., The Computer Language Company), THE COMPUTER GLOSSARY, 9th Ed., 2001, 349. Security: The protection of data against unauthorized access.

Sandra Anderson, et al. (Eds.), COLLINS ENGLISH DICTIONARY, 8th Ed. 2006, 1460. Security: The protection of data to ensure that only authorized personnel have access to computer files.

" Security " means to free from danger.

Erin McKean, (Ed.), THE NEW OXFORD AMERICAN DICTIONARY, 2nd Ed., 2005, 1532. Security: The state of being free from danger or threat.

Wendalyn Nichols, (Ed.), RANDOM HOUSE COLLEGE DICTIONARY, 2000, 1189. Security: Freedom from danger, risk, etc.: safety.

" Security " means to keep safe from criminal activity.

Erin McKean, (Ed.), THE NEW OXFORD AMERICAN DICTIONARY, 2nd Ed., 2005, 1532. Security: The safety of a state or organization against criminal activity such as terrorism, theft, or espionage; procedures followed or measures taken to ensure such safety.

Stephen Bullon, (Ed.), LONGMAN DICTIONARY OF CONTEMPORARY ENGLISH, 4th Ed., 2005, 1482. Security: Things that are done to keep a person, building, or country safe from danger or crime.

Wendalyn Nichols, (Ed.), RANDOM HOUSE COLLEGE DICTIONARY, 2000, 1189. Security: Precautions taken to guard against crime, espionage, etc.

" Security " means to give protection or to safeguard.

Jean McKechnie, (Ed.), WEBSTER'S NEW TWENTIETH CENTURY DICTIONARY OF THE ENGLISH LANGUAGE, UNABRIDGED, 2nd Ed., 1979, 1641. Security: Something that gives or assures safety; protection; safeguard.

John Daintith & Edmund Wright, (Eds.), THE FACTS ON FILE DICTIONARY OF COMPUTER SCIENCE, Rev. Ed., 2006, 200. Security: Prevention of or protection against (a) access to information by unauthorized recipients or (b) intentional but unauthorized alteration or destruction of that information.

" Security " means to keep free from risk.

Joseph Pickett, (Ed.), AMERICAN HERITAGE DICTIONARY OF THE ENGLISH LANGUAGE, 4th Ed., 2006, 1575. Security: Freedom from risk or danger; safety.

" Security " means to take precautions.

RANDOM HOUSE WEBSTER'S UNABRIDGED DICTIONARY, 2ND Ed., 2001, 1731. Security: Precautions taken to guard against crime, attack, sabotage, espionage, etc.

" Security " means to protect against unauthorized use.

Sandra Haynes, (Ed.), MICROSOFT COMPUTER DICTIONARY, 5th Ed., 2002, 470. Security: The technologies used to make a service resistant to unauthorized access to the data that it holds or for which it is responsible.

COOPERATION

"Cooperation" means working together to the same end.

Erin McKean, (Ed.), THE NEW OXFORD AMERICAN DICTIONARY, 2nd Ed., 2005, 374. Cooperation: The process of working together to the same end.

Jean McKechnie, (Ed.), WEBSTER'S NEW TWENTIETH CENTURY DICTIONARY OF THE ENGLISH LANGUAGE, UNABRIDGED, 2nd Ed., 1979, 402. Cooperation: The act of working or operating together to one end.

Wendalyn Nichols, (Ed.), RANDOM HOUSE COLLEGE DICTIONARY, 2000, 294. Cooperation: Working or acting together for a common purpose or benefit.

"Cooperation" means to provide assistance.

Erin McKean, (Ed.), THE NEW OXFORD AMERICAN DICTIONARY, 2nd Ed., 2005, 374. Cooperation: Assistance, especially by ready compliance with requests.

"Cooperation" means to engage in joint action.

RANDOM HOUSE WEBSTER'S UNABRIDGED DICTIONARY, 2ND Ed., 2001, 446. Cooperation: The act or instance of working together for a common purpose or benefit; joint action.

Sandra Anderson, et al. (Eds.), COLLINS ENGLISH DICTIONARY, 8th Ed. 2006, 371. Cooperation: Joint operation or action

SECURITY COOPERATION (AS A COMPLETE PHRASE)

"Security Cooperation" means a defense relationship with allies.

U.S. Joint Chiefs of Staff, JOINT PUBLICATION 3-20: SECURITY COOPERATION, May 23, 2017. Retrieved Feb. 21, 2022 from https://www.jcs.mil/Portals/36/Documents/Doctrine/pubs/jp3_20_20172305.pdf Security cooperation provides ways and means to help achieve national security and foreign policy objectives. Department of Defense (DOD) strategic guidance emphasizes the importance of defense relationships with allies and partner nations (PNs) to advance national security objectives, promote stability, prevent conflicts, and reduce the risk of having to employ US military forces in a conflict.

Chairman of the Joint Chiefs of Staff, SECURITY COOPERATION, May 23, 2017. Retrieved Jan. 14, 2022 from https://www.jcs.mil/Portals/36/Documents/Doctrine/pubs/jp3_20_20172305.pdf Security cooperation (SC) encompasses all Department of Defense (DOD) interactions, programs, and activities with foreign security forces (FSF) and their institutions to build relationships that help promote US interests; enable partner nations (PNs) to provide the US access to territory, infrastructure, information, and resources; and/or to build and apply their capacity and capabilities consistent with US defense objectives. It includes, but is not limited to, military engagements with foreign defense and security establishments (including those governmental organizations that primarily perform disaster or emergency response functions), DOD-administered security assistance (SA) programs, combined exercises, international armaments cooperation, and information sharing and collaboration.

“Security Cooperation” means to enable countries or organizations to partner with the U.S. to achieve strategic objectives.

U.S. Joint Chiefs of Staff, JOINT PUBLICATION 3-20: SECURITY COOPERATION, May 23, 2017. Retrieved Feb. 21, 2022 from https://www.jcs.mil/Portals/36/Documents/Doctrine/pubs/jp3_20_20172305.pdf Security cooperation uses a combination of programs and activities by which DOD, in coordination with DOS, encourages and enables countries and organizations to partner with the US to achieve strategic objectives.

U.S. Joint Chiefs of Staff, JOINT PUBLICATION 3-20: SECURITY COOPERATION, May 23, 2017. Retrieved Feb. 21, 2022 from https://www.jcs.mil/Portals/36/Documents/Doctrine/pubs/jp3_20_20172305.pdf The U.S. military strengthens regional stability by conducting security cooperation activities with foreign defense establishments. Such activities support mutual security interests, develop partner capabilities for self-defense, and prepare for multinational operations. Strengthening partners is fundamental to our security, building strategic depth for our national defense.

U.S. Joint Chiefs of Staff, JOINT PUBLICATION 3-20: SECURITY COOPERATION, May 23, 2017. Retrieved Feb. 21, 2022 from https://www.jcs.mil/Portals/36/Documents/Doctrine/pubs/jp3_20_20172305.pdf Security cooperation encompasses all DOD interactions, programs, and activities with foreign security forces (FSF) and their institutions to build relationships that help promote US interests; enable PNs to provide the US access to territory, infrastructure, information, and resources; and/or to build and apply their capacity and capabilities consistent with US defense objectives.

“Security Cooperation” means to promote U.S. security interests.

Chairman of the Joint Chiefs of Staff, SECURITY COOPERATION, May 23, 2017. Retrieved Jan. 14, 2022 from https://www.jcs.mil/Portals/36/Documents/Doctrine/pubs/jp3_20_20172305.pdf Security cooperation: All Department of Defense interactions with foreign security establishments to build security relationships that promote specific United States security interests, develop allied and partner nation military and security capabilities for self-defense and multinational operations, and provide United States forces with peacetime and contingency access to allied and partner nations.

Chairman of the Joint Chiefs of Staff, SECURITY COOPERATION, May 23, 2017. Retrieved Jan. 14, 2022 from https://www.jcs.mil/Portals/36/Documents/Doctrine/pubs/jp3_20_20172305.pdf Security cooperation (SC) provides ways and means to help achieve national security and foreign policy objectives.

Security Cooperation Workforce, (U.S. Dept. of Defense), DOD LAUNCHES SECURITY COOPERATION CERTIFICATION PROGRAM, Jan. 2, 2020. Retrieved Jan. 14, 2022 from <https://www.defense.gov/News/News-Stories/Article/Article/2048832/defense-department-begins-security-cooperation-workforce-program/> Security cooperation is the effort to advance U.S. national security and foreign policy interests by building the capacity of foreign security forces to respond to shared challenges. That effort involves, among other things, building and maintaining military-to-military relationships, combined training efforts, and foreign military sales.

“Security Cooperation” means to provide security assistance to allies.]

Defense Acquisition University, INTERNATIONAL ACQUISITION MANAGEMENT, Feb. 28, 2021. Retrieved Jan. 14, 2022 from <https://www.dau.edu/cop/iam/Pages/Topics/Security%20Cooperation.aspx> DoD Security Cooperation includes International Armaments Cooperation (IAC) activities as well as the various elements of Security Assistance, including Foreign Military Sales (FMS) and Building Partner Capacity (BPC). Most DoD Security Cooperation policy, organization, and activities (other than IAC) are led and managed by USD(Policy) rather than USD(Acquisition & Sustainment) and USD(Research & Engineering), but many U.S. Government/DoD Security Cooperation activities are implemented through USD(A&S), USD(R&E), and DoD Component acquisition-related IA&E efforts.

“Security Cooperation” means to apply a military instrument.”

U.S. Joint Chiefs of Staff, JOINT PUBLICATION 3-20: SECURITY COOPERATION, May 23, 2017. Retrieved Feb. 21, 2022 from https://www.jcs.mil/Portals/36/Documents/Doctrine/pubs/jp3_20_20172305.pdf Security cooperation (SC) represents an application of the military instrument of national power in coordination with the other instruments of national power (diplomatic, informational, and economic) through which the USG shapes the theater and global OEs and helps prevent conflicts. SC programs and activities are normally integrated and synchronized with the other instruments of national power depending upon how other interagency partners implement the national strategy (e.g., national security strategy [NSS]) to achieve strategic objectives.

WITH

“With” means to be accompanied by another.

Erin McKean, (Ed.), THE NEW OXFORD AMERICAN DICTIONARY, 2nd Ed., 2005, 1929. With: Accompanied by another person or thing.

Joseph Pickett, (Ed.), AMERICAN HERITAGE DICTIONARY OF THE ENGLISH LANGUAGE, 4th Ed., 2006, 1975. With: In the company of; accompanying.

Wendalyn Nichols, (Ed.), RANDOM HOUSE COLLEGE DICTIONARY, 2000, 1501. With: Accompanied by.

“With” means to move in the same direction as.

Erin McKean, (Ed.), THE NEW OXFORD AMERICAN DICTIONARY, 2nd Ed., 2005, 1929. With: In the same direction as.

Jean McKechnie, (Ed.), WEBSTER’S NEW TWENTIETH CENTURY DICTIONARY OF THE ENGLISH LANGUAGE, UNABRIDGED, 2nd Ed., 1979, 2101. With: In the same direction as.

Joseph Pickett, (Ed.), AMERICAN HERITAGE DICTIONARY OF THE ENGLISH LANGUAGE, 4th Ed., 2006, 1975. With: In the same direction as.

Stephen Bullon, (Ed.), LONGMAN DICTIONARY OF CONTEMPORARY ENGLISH, 4th Ed., 2005, 1895. With: In the same direction as something.

“With” means to be in association with another.

Ian Brookes, (Ed.), THE CHAMBERS DICTIONARY, 10TH Ed., 2006,1768. With: Denoting nearness, association, or connection.

Jean McKechnie, (Ed.), WEBSTER’S NEW TWENTIETH CENTURY DICTIONARY OF THE ENGLISH LANGUAGE, UNABRIDGED, 2nd Ed., 1979, 2101. With: As an associate in action.

Jean McKechnie, (Ed.), WEBSTER’S NEW TWENTIETH CENTURY DICTIONARY OF THE ENGLISH LANGUAGE, UNABRIDGED, 2nd Ed., 1979, 2101. With: As a member of.

“With” means at the same time as.

RANDOM HOUSE WEBSTER’S UNABRIDGED DICTIONARY, 2ND Ed., 2001, 2183. With: At the same time as or immediately after.

“With” means “in support of.”

Jean McKechnie, (Ed.), WEBSTER’S NEW TWENTIETH CENTURY DICTIONARY OF THE ENGLISH LANGUAGE, UNABRIDGED, 2nd Ed., 1979, 2101. With: In support of.

Joseph Pickett, (Ed.), AMERICAN HERITAGE DICTIONARY OF THE ENGLISH LANGUAGE, 4th Ed., 2006, 1975. With: In support of.

“With” means “next to or alongside.”

Joseph Pickett, (Ed.), AMERICAN HERITAGE DICTIONARY OF THE ENGLISH LANGUAGE, 4th Ed., 2006, 1975. With: Next to; alongside of.

“With” means “in relationship to.”

Joseph Pickett, (Ed.), AMERICAN HERITAGE DICTIONARY OF THE ENGLISH LANGUAGE, 4th Ed., 2006, 1975. With: In relationship to.

RANDOM HOUSE WEBSTER’S UNABRIDGED DICTIONARY, 2ND Ed., 2001, 2183. With: In some particular relation to.

Stephen Bullon, (Ed.), LONGMAN DICTIONARY OF CONTEMPORARY ENGLISH, 4th Ed., 2005, 1895. With: Used to say what an action or situation is related to.

Wendalyn Nichols, (Ed.), RANDOM HOUSE COLLEGE DICTIONARY, 2000, 1501. With: In some particular relation to.

“With” means “in regard to.”

RANDOM HOUSE WEBSTER’S UNABRIDGED DICTIONARY, 2ND Ed., 2001, 2183. With: In regard to

Wendalyn Nichols, (Ed.), RANDOM HOUSE COLLEGE DICTIONARY, 2000, 1501. With: In regard to.

“With” indicates reciprocal action.

Sandra Anderson, et al. (Eds.), COLLINS ENGLISH DICTIONARY, 8th Ed. 2006, 1842-1843. With: Often used with a verb indicating a reciprocal action or relation between the subject and the preposition’s object.

“With” means “in the region or view of.”

Wendalyn Nichols, (Ed.), RANDOM HOUSE COLLEGE DICTIONARY, 2000, 1501. With: In the region, sphere, or view of.

THE NORTH ATLANTIC TREATY ORGANIZATION

NATO has established a goal statement in the overall area of emerging technologies.

Ulf Ehlert, (Dir., Strategy and Policy in the Office of the Chief Scientist at NATO headquarters), NATO REVIEW, Dec. 16, 2021. Retrieved May 2, 2022 from <https://www.nato.int/docu/review/articles/2021/12/16/why-our-values-should-drive-our-technology-choices/index.html> Emerging and Disruptive Technologies (EDTs) came into NATO’s political focus in 2019, when NATO leaders adopted an implementation roadmap for seven such technologies. Regardless of their tremendous promise, we must realise that these technologies are not yet mature, not yet “fully out there”. Therefore, considerable uncertainty remains to which extent these fledgling technologies and their foreseeable applications are appropriately contained within established legal, ethical, and moral norms. These questions are not limited to military applications, nor do they stop at national borders: rather, they cut across many government departments and business sectors, and they affect humanity in its entirety. In this complex, fast moving, high-stake setting, we must view technology and values as intertwined. While our values should guide our use of technology, we must recognise that our technology choices will, whether intended or not, reflect the values we adhere to. As inaction is not an option, we must take active measures to establish norms for the future use of technologies; norms that are deeply rooted in our values; technologies that are currently emerging and have recognised disruption potential (such as AI, biotechnology, and quantum technology).

NATO has established a goal statement in the area of artificial intelligence.

Zoe Stanley-Lockman & Edward Hunter Christie, (Officers in NATO's Emerging Challenges Division), AN ARTIFICIAL INTELLIGENCE STRATEGY FOR NATO, Oct. 25, 2021. Retrieved Feb. 15, 2022 from <https://www.nato.int/docu/review/articles/2021/10/25/an-artificial-intelligence-strategy-for-nato/index.html> Allies and NATO commit to ensuring that the AI applications they develop and consider for deployment will be in accordance with the following six principles: Lawfulness: AI applications will be developed and used in accordance with national and international law, including international humanitarian law and human rights law, as applicable. Responsibility and Accountability: AI applications will be developed and used with appropriate levels of judgment and care; clear human responsibility shall apply in order to ensure accountability. Explainability and Traceability: AI applications will be appropriately understandable and transparent, including through the use of review methodologies, sources, and procedures. This includes verification, assessment and validation mechanisms at either a NATO and/or national level. Reliability: AI applications will have explicit, well-defined use cases. The safety, security, and robustness of such capabilities will be subject to testing and assurance within those use cases across their entire life cycle, including through established NATO and/or national certification procedures. Governability: AI applications will be developed and used according to their intended functions and will allow for: appropriate human-machine interaction; the ability to detect and avoid unintended consequences; and the ability to take steps, such as disengagement or deactivation of systems, when such systems demonstrate unintended behaviour. Bias Mitigation: Proactive steps will be taken to minimise any unintended bias in the development and use of AI applications and in data sets. Having agreed to adopt these mutually reinforcing principles, the task now turns to translating them into principled action.

NATO has established a goal statement in the area of cybersecurity.

NATO, “NATO Cyber Defence Pledge,” July 8, 2016. Retrieved Apr. 14, 2022 from https://www.nato.int/cps/en/natohq/official_texts_133177.htm 1. In recognition of the new realities of security threats to NATO, we, the Allied Heads of State and Government, pledge to ensure the Alliance keeps pace with the fast evolving cyber threat landscape and that our nations will be capable of defending themselves in cyberspace as in the air, on land and at sea. 2. We reaffirm our national responsibility, in line with Article 3 of the Washington Treaty, to enhance the cyber defences of national infrastructures and networks, and our commitment to the indivisibility of Allied security and collective defence, in accordance with the Enhanced NATO Policy on Cyber Defence adopted in Wales. We will ensure that strong and resilient cyber defences enable the Alliance to fulfil its core tasks. Our interconnectedness means that we are only as strong as our weakest link. We will work together to better protect our networks and thereby contribute to the success of Allied operations. 3. We welcome the work of Allies and the EU on enhancing cyber security, which contributes to reinforcing resilience in the Euro-Atlantic region, and we support further NATO – EU cyber defence co-operation, as agreed. We reaffirm the applicability of international law in cyberspace and acknowledge the work done in relevant international organisations, including on voluntary norms of responsible state behaviour and confidence-building measures in cyberspace. We recognise the value of NATO’s partnerships with partner nations, industry and academia, including through the NATO Industry Cyber Partnership. 4. We emphasise NATO’s role in facilitating co-operation on cyber defence including through multinational projects, education, training, and exercises and information exchange, in support of national cyber defence efforts. We will ensure that our Alliance is cyber aware, cyber trained, cyber secure and cyber enabled. 5. We, Allied Heads of State and Government, pledge to strengthen and enhance the cyber defences of national networks and infrastructures, as a matter of priority. Together with the continuous adaptation of NATO’s cyber defence capabilities, as part of NATO’s long term adaptation, this will reinforce the cyber defence and overall resilience of the Alliance. We will: I. Develop the fullest range of capabilities to defend our national infrastructures and networks. This includes: addressing cyber defence at the highest strategic level within our defence related organisations, further integrating cyber defence into operations and extending coverage to deployable networks; II. Allocate adequate resources nationally to strengthen our cyber defence capabilities; III. Reinforce the interaction amongst our respective national cyber defence stakeholders to deepen co-operation and the exchange of best practices; IV. Improve our understanding of cyber threats, including the sharing of information and assessments; V. Enhance skills and awareness, among all defence stakeholders at national level, of fundamental cyber hygiene through to the most sophisticated and robust cyber defences; VI. Foster cyber education, training and exercising of our forces, and enhance our educational institutions, to build trust and knowledge across the Alliance; VII. Expedite implementation of agreed cyber defence commitments including for those national systems upon which NATO depends. 6. To track progress on the delivery of our Pledge, we task an annual assessment based on agreed metrics, and we will review progress at our next summit.

NATO, CYBER DEFENSE, July 2, 2021. Retrieved Feb. 15, 2022 from https://www.nato.int/cps/en/natohq/topics_78170.htm The private sector is a key player in cyberspace, and technological innovations and expertise from the private sector are crucial to enable NATO and Allied countries to effectively respond to cyber threats. Through the NATO Industry Cyber Partnership (NICP), NATO and its Allies are working to reinforce their relationships with industry. This partnership includes NATO entities, national Computer Emergency Response Teams (CERTs) and NATO member countries’ industry representatives. Information-sharing activities, exercises, training and education, and multinational Smart Defence projects are just a few examples of areas in which NATO and industry have been working together.

AREAS

“Areas” refers to “a range of activity.”

Erin McKean, (Ed.), THE NEW OXFORD AMERICAN DICTIONARY, 2nd Ed., 2005, 81. Area: A subject or range of activity.

Jean McKechnie, (Ed.), WEBSTER’S NEW TWENTIETH CENTURY DICTIONARY OF THE ENGLISH LANGUAGE, UNABRIDGED, 2nd Ed., 1979, 99. Area: Scope, range, extent.

Wendalyn Nichols, (Ed.), RANDOM HOUSE COLLEGE DICTIONARY, 2000, 71. Area: Extent, range, scope.

“Areas” refers to “a field of study.”

Joseph Pickett, (Ed.), AMERICAN HERITAGE DICTIONARY OF THE ENGLISH LANGUAGE, 4th Ed., 2006, 94. Area: A division of experience, activity or knowledge; a field.

“Areas” refers to “a part or portion of something.”

Sandra Anderson, et al. (Eds.), COLLINS ENGLISH DICTIONARY, 8th Ed. 2006, 84. Area: A section, portion, or part

“Areas” refers to “a group of related subjects.”

Stephen Bullon, (Ed.), LONGMAN DICTIONARY OF CONTEMPORARY ENGLISH, 4th Ed., 2005, 65. Area: A particular subject, range of activities, or group of related subjects.

ARTIFICIAL INTELLIGENCE

“Artificial Intelligence” refers to a computer capable of human cognition.

John Daintith & Edmund Wright, (Eds.), THE FACTS ON FILE DICTIONARY OF COMPUTER SCIENCE, Rev. Ed., 2006, 11. Artificial intelligence: The branch of computer science concerned with programs that carry out tasks requiring intelligence when done by humans.

Alan Freedman, (Pres., The Computer Language Company), THE COMPUTER GLOSSARY, 9th Ed., 2001, 6-7. Artificial intelligence: Devices and applications that exhibit human intelligence and behavior including robots, expert systems, voice recognition, natural and foreign language processing. It also implies the ability to learn or adapt through experience.

“Artificial Intelligence” refers to the simulation of human intelligence.

Bryan Pfaffenberger, (Prof., Sociology of Technology, U. Virginia), WEBSTER’S NEW WORLD COMPUTER DICTIONARY, 10th Ed., 2003, 28. Artificial intelligence: A computer science field that tries to improve computers by endowing them with some of the characteristics associated with human intelligence, such as the capability to understand natural language and to reason under conditions of uncertainty.

Erin McKean, (Ed.), THE NEW OXFORD AMERICAN DICTIONARY, 2nd Ed., 2005, 88. Artificial Intelligence: The theory and development of computer systems able to perform tasks that normally require human intelligence, such as visual perception, speech recognition, decision-making, and transition between languages.

MERRIAM-WEBSTER DICTIONARY, Feb. 26, 2022. Retrieved Mar. 10, 2022 from <https://www.merriam-webster.com/dictionary/artificial%20intelligence> Artificial intelligence: a branch of computer science dealing with the simulation of intelligent behavior in computers

Sandra Anderson, et al. (Eds.), COLLINS ENGLISH DICTIONARY, 8th Ed. 2006, 91. Artificial Intelligence: The study of the modelling of human mental functions by computer programs.

Sandra Haynes, (Ed.), MICROSOFT COMPUTER DICTIONARY, 5th Ed., 2002, 35-36. Artificial intelligence: The branch of computer science concerned with enabling computers to simulate such aspects of human intelligence as speech recognition, deduction, inference, creative response, and the ability to learn from experience and the ability to make inferences given incomplete information.

“Artificial Intelligence” refers to a group of technologies that focus on automation.

Anastassia Lauterbach, (Cybersecurity expert, Wirecard AG, Germany), THE LAW OF ARTIFICIAL INTELLIGENCE AND SMART MACHINES: UNDERSTANDING AI AND THE LEGAL IMPACT, 2019, 30. Artificial intelligence implies a group of technologies and scientific fields that focus on automation, acceleration and extreme scalability of human perception (e.g., the capability to see, or to understand and speak a human language), decision-making and reasoning.

“Artificial Intelligence” refers to human-like intelligence demonstrated by a machine.

John Lennox, (Emeritus Professor of Mathematics and Bioethics at Oxford U.), 2084: ARTIFICIAL INTELLIGENCE AND THE FUTURE OF HUMANITY, 2020, 16-17. The term AI was coined in a summer school held at the mathematics department of Dartmouth University in 1956 that was organised by John McCarthy, who said, "AI is the science and engineering of making intelligent machines." The term is now used both for the intelligent machines that are the goal and for the science and technology that are aiming at that goal.

Joseph Pickett, (Ed.), AMERICAN HERITAGE DICTIONARY OF THE ENGLISH LANGUAGE, 4th Ed., 2006, 102. Artificial intelligence: The ability of a computer or other machine to perform activities that are normally thought to require intelligence.

MERRIAM-WEBSTER DICTIONARY, Feb. 26, 2022. Retrieved Mar. 10, 2022 from <https://www.merriam-webster.com/dictionary/artificial%20intelligence> Artificial intelligence: the capability of a machine to imitate intelligent human behavior

Edward Hunter Christie, (Deputy Head, Emerging Security Challenges Division of NATO), ARTIFICIAL INTELLIGENCE AT NATO, Nov. 24, 2020. Retrieved Feb. 15, 2022 from <https://www.nato.int/docu/review/articles/2020/11/24/artificial-intelligence-at-nato-dynamic-adoption-responsible-use/index.html> AI is the ability of machines to perform tasks that typically require human intelligence – for example, recognising patterns, learning from experience, drawing conclusions, making predictions, or taking action – whether digitally or as the smart software behind autonomous physical systems

“Artificial Intelligence” refers to systems that learn from experience and make decisions.

Carol-June Cassidy, (Ed.), CAMBRIDGE DICTIONARY OF AMERICAN ENGLISH, 2nd Ed., 2008, 41. Artificial intelligence: The use of computer programs that have some of the qualities of the human mind, such as the ability to understand language, recognize pictures, and learn from experience.

Oracle Cloud Infrastructure, WHAT IS AI? LEARN ABOUT ARTIFICIAL INTELLIGENCE. Jan. 30, 2022. Retrieved Mar. 10, 2022 from <https://www.oracle.com/artificial-intelligence/what-is-ai/> In the simplest terms, AI which stands for artificial intelligence refers to systems or machines that mimic human intelligence to perform tasks and can iteratively improve themselves based on the information they collect.

RANDOM HOUSE WEBSTER’S UNABRIDGED DICTIONARY, 2ND Ed., 2001, 119. Artificial intelligence: The capacity of a computer to perform operations analogous to learning and decision making in humans.

Wendalyn Nichols, (Ed.), RANDOM HOUSE COLLEGE DICTIONARY, 2000, 77. Artificial intelligence: The collection of attributes of a computer, robot, or other mechanical device programmed to perform functions analogous to learning and decision making.

“Artificial Intelligence” refers to a set of computational technologies that can sense, learn, and reason.

James Baker, (Former Legal Counsel, National Security Council), THE LAW OF ARTIFICIAL INTELLIGENCE AND SMART MACHINES: UNDERSTANDING AI AND THE LEGAL IMPACT, 2019, 310. AI in military context offers much more. This becomes evident if one defines AI as the Stanford 100 Year Study did, as a set of technologies. "Artificial intelligence is a science, and a set of computational technologies, that are inspired, but typically operate quite differently from, the way people use their nervous systems and bodies to sense, learn, reason, and take action." This definition is useful because it captures the breadth of AI-related research, its reliance on computational capacity (and prediction), and deters the reader from anthropomorphic identification with AI-enabled machines.

“Artificial Intelligence” refers to computational technologies that are inspired by human intelligence but operate differently.

Peter Stone et al. (2016). ARTIFICIAL INTELLIGENCE AND LIFE IN 2030, Sept. 2016. Retrieved Mar. 18, 2022 from https://ai10020201023.sites.stanford.edu/sites/g/files/sbiybj18871/files/media/file/ai100report10032016fnl_singles.pdf Artificial Intelligence (AI) is a science and a set of computational technologies that are inspired by—but typically operate quite differently from—the ways people use their nervous systems and bodies to sense, learn, reason, and take action.

BIOTECHNOLOGY

“Biotechnology” refers to a discipline in which biological processes are exploited to develop new products.

Gitanjali Adlakha-Hutcheon, et al. (NATO Science & Technology Organization), BIOTECHNOLOGY, HUMAN ENHANCEMENT AND HUMAN AUGMENTATION: A WAY FORWARD FOR RESEARCH AND POLICY, Dec. 2021. Retrieved Feb. 15, 2022 from <https://www.sto.nato.int/publications/STO%20Technical%20Reports/Forms/Technical%20Report%20Document%20Set/docsethomepage.aspx> Biotechnology is a broad discipline in which biological processes, cells, or cellular components are exploited to develop products and new technologies for specific purposes. One of the potential uses for biotechnology is to enhance and/or augment the human. Human enhancement, broadly defined, is the process to extend physical form or cognitive, physiological, sensory or social functions beyond baseline biological potential.

Seth Moulton et al., (Chair, Task Force on the Future of Defense), FUTURE OF DEFENSE TASK FORCE REPORT, Sept. 23, 2020, 33. Biotechnology is the field of applied science that harnesses and manipulates cellular and biomolecular processes to create products and develop technology. As one of many emerging dual-use technologies, advancements in biotech will significantly alter both the health and food sciences, and the potential for civilian applications is nearly immeasurable.

Carol-June Cassidy, (Ed.), CAMBRIDGE DICTIONARY OF AMERICAN ENGLISH, 2nd Ed., 2008, 77. Biotechnology: The use of living things, especially cells and bacteria, in industrial processes.

Joseph Pickett, (Ed.), AMERICAN HERITAGE DICTIONARY OF THE ENGLISH LANGUAGE, 4th Ed., 2006, 185. Biotechnology: The use of microorganisms, such as bacteria or yeasts, or biological substances such as enzymes, to perform specific industrial or manufacturing processes. Applications include the production of certain drugs, synthetic hormones, and bulk foodstuffs as well as the bioconversion of organic waste and the use of genetically altered organisms in the cleanup of oil spills.

Martina Newell-McGloughlin & Edward Re, (Dir., International Biotechnology, U. of California at Davis/Prof., Biological Sciences, Solano Community College), THE EVOLUTION OF BIOTECHNOLOGY: FROM NATUFIANS TO NANOTECHNOLOGY, 2006, 196. Biotechnology: Development of products by a biological process. Production may be carried out by using intact organisms, such as yeasts and bacteria, or by using natural substances (e.g. enzymes) from organisms.

“Biotechnology” involves the genetic manipulation of organisms.

Erin McKean, (Ed.), THE NEW OXFORD AMERICAN DICTIONARY, 2nd Ed., 2005, 167. Biotechnology: The exploitation of biological processes for industrial and other purposes, especially the genetic manipulation of microorganisms for the production of antibiotics, hormones, etc.

Martina Newell-McGloughlin & Edward Re, (Dir., International Biotechnology, U. of California at Davis/Prof., Biological Sciences, Solano Community College), THE EVOLUTION OF BIOTECHNOLOGY: FROM NATUFIANS TO NANOTECHNOLOGY, 2006, 196. Biotechnology: The integration of natural sciences and engineering sciences, particularly recombinant DNA technology and genetic engineering, in order to achieve the application of organisms, cells, parts thereof and molecular analogues for products and services

Robert Cottle & Hugh Wellons, (Attorney, Cottle & Associates/Attorney, Silman, Thomas & Battle), BIOTECHNOLOGY AND THE LAW, 2019, 5. Before going any further, we must establish what this book covers, providing a working definition of "biotechnology." In its narrowest and most traditional sense, "biotech" is a term of art that encompasses the alteration and application of living matter—for example, the genetic manipulation of microbes—for a human use. With growth of the industry and the integration of many different technologies, however, a working definition becomes more elusive. As the field grew, the term evolved to include research, development, and application of medicines, devices, analytical aids, and therapies intended to contribute to the health and physical well-being of humans.

"Biotechnology" includes a long list of the life sciences.

Hugh Wellons, (Attorney, Spilman, Thomas & Battle), BIOTECHNOLOGY AND THE LAW, 2019, xxxvii. Biotechnology frequently is identified as one of the fastest-growing industries in the world. Speaking of a single "biotechnology industry," however, is misleading. Biotechnology applies the myriad branches of the life sciences (e.g., the various medical and surgical specialties, biology, biochemistry, pharmacology, biomedical engineering, genomics, proteomics, regenerative medicine, nanotechnology) to the development of products and technologies useful in a broad range of industry sectors (e.g., human health care, veterinary care, food and agriculture, textiles, chemicals, alternative energy sources, biodefense).

"Biotechnology" includes the use of biological systems to create drugs, among other products.

Stephen Bullon, (Ed.), LONGMAN DICTIONARY OF CONTEMPORARY ENGLISH, 4th Ed., 2005, 137. Biotechnology: The use of living things such as cells, bacteria, etc. to make drugs, destroy waste matter, etc.

Wendalyn Nichols, (Ed.), RANDOM HOUSE COLLEGE DICTIONARY, 2000, 136. Biotechnology: The use of living organisms or other biological systems in the manufacture of drugs or for environmental management.

The etymological definition of "biotechnology" shows that it is the application of engineering principles to process biological agents.

Brooke Elizabeth Hrouda, (JD, U. of Georgia School of Law), "Playing God?: An Examination Of The Legality Of CRISPR Germline Editing Technology Under The Current International Regulatory Scheme And The Universal Declaration On The Human Genome And Human Rights," GEORGIA JOURNAL OF INTERNATIONAL AND COMPARATIVE LAW, 2016, 225. The word biotechnology was coined by Karl Ereky in Hungary in 1919, but informal applications of the technology date back thousands of years to the nomadic societies selective crop cultivation techniques. "Biotechnology" is a cross between the Greek words bios meaning "everything to do with life" and technikos meaning "involving human knowledge and skills." Biotechnology involves the application of scientific and engineering principles to the processing of materials by biological agents." More simply, it is using living organisms to make useful products, but to describe it in more practical terms, biotechnology "harnesses cellular and biomolecular processes to develop technologies and products that help improve our lives and the health of our planet."

CYBERSECURITY

"Cybersecurity" refers to the issue of maintaining trust in cyberspace.

Eric Trozzo, (Prof., Philosophy & Ethics, Sabah Theological Seminary in Malaysia), THE CYBERDIMENSION: A POLITICAL THEOLOGY OF CYBERSPACE AND CYBERSECURITY, 2019, 7. How can one be sure that those with whom one interacts online are not malicious? This is especially important in cyberspace not just because of the size of the network but also because there is no way of knowing the full extent of the web of relationships with which you are interacting every time you engage in anything in cyberspace. Nobody takes the time to track down the paths of every packet of information involved in your online interactions. Cybersecurity, then, deals with how to establish trust in cyberspace as well as how to protect oneself against damaging and malicious uses of cyberspace.

“Cybersecurity” refers to the state of being free from electronic crime.

Eric Trozzo, (Prof., Philosophy & Ethics, Sabah Theological Seminary in Malaysia), THE CYBERDIMENSION: A POLITICAL THEOLOGY OF CYBERSPACE AND CYBERSECURITY, 2019, 7. Singer and Friedman hold, "Security isn't just the notion of being free from danger, as it is commonly conceived, but is associated with the presence of an adversary." Thus we see that in cybersecurity, two sides are needed. Human intentionality creates a cybersecurity situation. Singer and Friedman report that cybersecurity traditionally has three goals, known as the "CIA Triad": Confidentiality, Integrity, and Availability. To these three they add a fourth: Resiliency. Each of these marks a type of security needed to retain trust in cyberspace.