DEPARTMENT OF THE NAVY
HEADQUARTERS UNITED STATES MARINE CORPS
3000 MARINE CORPS PENTAGON
WASHINGTON DC 20350-3000

MCO 5231.4
DC I (SDO)
11 Mar 2024

MARINE CORPS ORDER 5231.4

From: Commandant of the Marine Corps
To: Distribution List

Subj: MARINE CORPS DATA AND ARTIFICIAL INTELLIGENCE (AI)

Ref: See enclosure (1)

Encl: (1) References
(2) Data Workforce Roles
(3) Artificial Intelligence (AI) Workforce Roles

1. Situation. Data is foundational for all Marine Corps missions and activities, enabling the Marine Corps Total Force to sense, make sense, and act at the speed of relevance. Modernizing the enterprise's information, data, and information technology (IT) infrastructure enables global data access; reduces barriers to secure data sharing; uses development, security, and operations (DevSecOps); and provides a hybrid, multi-cloud environment from headquarters to the tactical edge. Responsible use of artificial intelligence (AI) to distill and analyze the data leveraged by the Marine Corps is an essential capability; further, the responsible use of AI services can be a force multiplier. The Marine Corps will integrate responsible, equitable, traceable, reliable, and governable AI capabilities to ensure adherence to risk identification, management and mitigation, and ethical use principles in accordance with references (c), (o), and (p), with specific adherence to the six tenets for responsible AI use and implementation in reference (c). The Marine Corps Total Force will be manned, trained, and equipped to use data-centric and AI-enabled capabilities according to references (a) through (bf). This Order is in accordance with references (a) through (bl).

a. Service Data Office (SDO). In accordance with reference (bg), Deputy Commandant for Information (DC I) is appointed as the service lead for data and AI. DC I will serve as the service representative to Department of Defense (DoD) organizations in this field. This Order establishes the SDO as the office responsible for policy, governance, and oversight for Marine Corps data and AI capabilities across all warfighting functions and informs requirements for providing authoritative data and AI to the tactical edge. The SDO is the service lead responsible for enterprise data, AI, information knowledge management (IKM), and the Marine Corps Software Factory (MCSWF). The SDO will lead the transformation of the Marine Corps into a data-centric and AI-enabled force by developing service-level policy and governance to implement the DoD Data Strategy and Department of the Navy (DON) Data Concept of Employment (COE). The SDO ensures data analytics and AI-enabled services are available to the Marine Corps to deliver kinetic and non-kinetic effects across all warfighting functions.

b. Governance. This Order establishes data and AI governance through the Functional Data Working Group (FDWG) and Artificial Intelligence Working Group (AIWG) that serve as the authoritative working groups for all Marine Corps data and AI matters.

(1) The FDWG is the service-level body for data governance. The Marine Corps Service Data Officer (MC SDO) is the chair of the FDWG. Members will be identified in the charter. The FDWG will provide recommendations to the appropriate governing body. The FDWG provides alignment of policy and resourcing decisions that impact the Marine Corps Total Force.

(2) The AIWG is the service-level body for AI governance. The MC SDO is the chair of the AIWG. Members will be identified in the charter. The AIWG provides alignment of policy, resourcing decisions, and the ethical and responsible AI principles that impact the Marine Corps Total Force according to references (o) and (ab). The AIWG will provide recommendations to the appropriate governing body.

(3) In support of governance and in accordance with references (r), (s), and (ar), Marine Corps enterprise data roles are as follows:

(a) Marine Corps Service Data Officer (MC SDO). The MC SDO establishes data and AI policy for the Marine Corps. The MC SDO aligns the Associate Data Officers (ADOs), Data Stewards, Data Custodians, and Command Data and Analytics Officers (CDAOs) to enable the warfighter to use enterprise data and AI capabilities across all DoD mission areas.

(b) Associate Data Officers (ADOs). ADOs are responsible for managing and overseeing the implementation of data management policies within their respective organization and assist the MC SDO with the development and enforcement of data management policies.

(c) Data Stewards. Data Stewards shape how the SDO's direction is executed in alignment with their missions and, as such, establish policies governing authoritative data access, use, protection, quality, and dissemination for their respective authoritative data sources (ADS). Data Stewards are responsible for designating vetted data products as ADS and ensuring existing ADS maintain current standards in accordance with references (bb) and (bc).

(d) Data Custodians. Data custodians perform mission and business data-related tasks such as acquiring, collecting, tagging, and processing data; and granting individual users' access to additional information beyond general systems, applications, and file permissions to perform such functions where appropriate.

(e) Command Data and Analytics Officers (CDAOs). The CDAOs are responsible for implementing enterprise and domain specific data management policies and maintaining the quality of the data within their sub-domains. This individual also facilitates the use of tools to drive data-enabled decision making for their respective domain.

(4) Data Stewards, Data Custodians, and CDAOs are collectively responsible for registering ADS and ensuring data is visible and discoverable to authorized users across the service in accordance with references (y) through (ad).

c. Data and Artificial Intelligence (AI) Workforce. A data-centric and AI-enabled workforce trained and skilled across multiple data and AI disciplines are critical for safeguarding vital United States interests and deterring aggression. This Order identifies the gap between the current and necessary (or desired) data-centric and AI-enabled workforce and provides foundational guidance to address this gap.

(1) The service's data workforce supports policy implementation and ensures data architecture is resilient, secure, and capable of performing mission critical tasks with risk management and mitigation controls in place, according to the Marine Corps Authorizing Official (AO) for IT systems. The service requires a technical, administrative, and operational data workforce skilled and capable of supporting and implementing enterprise data services across all warfighting and business functions in accordance with references (a), (x), and (z). The data workforce is also responsible for ensuring that Marine Corps data is visible, accessible, understandable, linked, trustworthy, interoperable, and secure (VAULTIS) according to references (b), and (h) through (n).

(2) The Marine Corps must identify its requirements for AI talent to meet the service's combat and non-combat needs according to references (q) and (r). The service must establish a minimum set of competencies to address future AI workforce knowledge, skills, and abilities (KSA) in alignment with DoD efforts, and which, addresses both the technical and non-technical workforce. The service must identify and close skill gaps within its training and education curricula. Broadly, the Marine Corps workforce must lead, drive, create, embed, facilitate, and employ responsible AI, in both combat and non-combat functions, based on references (r) and (s).

2. Cancellation. MCO 5231.3.

3. Mission. The Marine Corps must develop data and AI technologies, solutions, and governance; and educate and train its personnel in these capabilities in order to create, share, comprehend, and leverage data and AI to increase the speed, effectiveness, accuracy, and efficiency of decision-making processes at all echelons throughout the cooperation, competition, and conflict continuum.

4. Execution

a. Commander's Intent and Concept of Operations

(1) Commander's Intent. The Marine Corps Total Force will be manned, trained, and equipped to use data-centric and AI-enabled capabilities.

(2) Concept of Operations. The MC SDO is the service lead for data and AI. The MC SDO will leverage the FDWG and AIWG to execute a whole-of-service approach to transforming the Marine Corps into a data-centric and AI-enabled service. The service will ensure FDWG and AIWG recommendations are submitted to the MCIEE Board for decision, as appropriate. The SDO publishes annual Data Implementation Plan(s), AI Implementation Plan(s), and associated policies to keep pace with the emerging technologies and mission

requirements. The Data and AI Implementation Plan(s) will have the same directive authority as this Order.

b. Subordinate Element Missions

(1) Deputy Commandant for Information (DC I)

(a) Serve as the Marine Corps Enterprise Operations Management, Intelligence, and Geospatial Data Steward.

(b) Oversee the activities of the MC SDO.

(c) Marine Corps Service Data Officer (MC SDO)

1. Serve as the principal advisor to the Commandant of the Marine Corps (CMC) for Marine Corps data and AI. The MC SDO represents service-component authoritative data and AI matters at the MCBC, MCIEE Board, and the Marine Corps Requirements Oversight Council (MROC).

2. Coordinate with the services and secretariat-level organizations regarding the CMC position for all data and AI matters. Provide service representation at all applicable AI and data governance forums.

3. Execute the SDO mission and serve as the final approval authority in the Marine Corps for data and AI according to references (b), (c), (d), (l), (m), (q) through (z), (ac), (ad), (ai), (ap), (aq), (ay), (az), (ba), (bb), (bc), and (bd).

4. Responsible for managing and overseeing the implementation of data governance and data management policies within their respective service and assisting the Department of the Navy Chief Data Officer (DON CDO) in development of data management policies in accordance with reference (an).

5. Oversee the MCSWF to enable agile software development according to references (d), (h), (i), (j), (k), (l), (m), (r), (s), (t), (u), (v), (x), (y), (z), (ab), (ac), (af), (ai), (aj), (al), and (am).

6. Publish an annual Data Implementation Plan and an AI Implementation Plan.

7. Be accountable for service compliance with the data management protocols for adhering to the VAULTIS standards and requirements.

8. Be accountable for service compliance with the ethical AI principles according to references (b), (c), (i), (j), (k), (l), (n), (o), (p), (s), (x), (y), (z), (aa), (ai), (aj), (ak), (ap), (aq), (ar), and (as).

9. Deliver a data catalog that captures ADS, metadata, and data provenance.

10. Establish Marine Corps data-centric and AI-enabled architecture that provides design tenets and concepts supporting the DON data vision according to references (l), (m), (n), (ai), and (aj).

11. In coordination with Deputy Commandant for Combat Development and Integration (DC CD&I), Deputy Commandant for Programs and Resources (DC P&R), and DC I, provide input to the Program Objective Memorandum (POM) and Planning, Programming, Budgeting, Execution, and Assessment (PPBEA) processes. Support DC CD&I in the identification of authoritative data and AI requirements to support Marine Corps missions according to references (d), (ae), (af), (ag), (al), (am), and (an).

12. Provide oversight in coordination with DC CD&I, DC I, Commander, Marine Corps Systems Command (COMMARCORSYSCOM), and DC P&R on governance matters relating to authoritative data and responsible AI, governance, resourcing, capital planning, investment control, data and AI portfolio management, and enterprise data architecture for all DoD mission areas according to references (aa), (ab), (ac), (al), (am), and (an).

13. Deliver and maintain a repository of current software libraries in support of data services and AI models vetted for use in unclassified and classified environments for all Marine Corps personnel according to references (d), (j), (l), (y), (z), (aa), (ai), and (aj).

14. Deliver and maintain a repository of data producer and consumer Application Programming Interfaces (APIs).

15. Establish and chair data and AI governance forums that report to the MCBC.

16. Appoint ADOs, in writing, to assist in the adoption of data-centric and AI capabilities in accordance with references (i), (l), and (m). The MC SDO is the single Marine Corps authority who can appoint ADOs. Inform SDO data management and RAI capabilities and policy development and enforcement efforts. Manage and oversee the implementation of data management and responsible AI capabilities and policies within the organization.

(d) Implement compliance with the data management protocols for adhering to the VAULTIS standards and requirements. Implement compliance with the responsible AI principles according to references (b), (c), (i), (j), (k), (l), (n), (o), (p), (s), (x), (y), (z), (aa), (ai), (aj), (ak), (ap), (aq), (ar), and (as).

(e) Provide oversight in coordination with the MC SDO, DC CD&I, COMMARCORSYSCOM, and DC P&R on governance matters relating to information and intelligence resourcing, cybersecurity, capital planning, investment control, IT portfolio management, and Marine Corps Enterprise Network architecture for all DoD mission areas according to references (aa), (ab), (ac), (al), (am), and (an).

(f) Serve as the Marine Corps AO for Marine Corps IT systems. Ensure Marine Corps IT system adherence with data security control policy, governance, and guidance issued by the DoD, DON, and MC SDO.

(g) Develop a Data and AI Workforce Delivery Roadmap in coordination with the Deputy Commandant for Manpower and Reserve Affairs (DC M&RA), Commanding General of Training and Education Command (CG TECOM) and other agencies, as required.

(h) The MC SDO will identify data and AI use cases on an annual basis.

(2) Deputy Commandant for Combat Development and Integration (DC CD&I)

(a) Serve as the Marine Corps Warfighting and Force Application Data Steward and principal requirements developer with MROC oversight and governance for warfighter requirements. Inform MC SDO data management and AI policy development and enforcement efforts. Manage and oversee the implementation of data management and AI policies within the organization.

(b) Provide DC CD&I representation at all service-level governance forums for data and AI.

(c) Ensure capability portfolio managers (CPMs) take a responsible and ethical approach to deliver data and AI capability assessments, development, and planning in accordance with reference (c).

(d) Require CPMs to participate, access, and help to implement the MC SDO Data and AI Implementation Plan.

(e) Support Data and AI personnel resourcing requirements as identified in the Data and AI workforce delivery roadmap.

(f) Transition the outcomes from the Doctrine, Organization, Training/Education, Materiel, Leadership/Communication Synchronization, Personnel, Facilities, and Cost Working Group (DOTMLPF/C WG) to the appropriate organization or forum to incorporate the desired outcomes, and recommend updates to the Data and AI Implementation Plans according to references (a), (b), (d), (h), (j), (l), (q), (r), (s), (w), (x), (aa), (af), (ag), (ah), (ak), (al), (am), (an), (ao), (ap), and (as).

(g) Direct CPMs to enterprise data-driven and responsible AI-enabled solutions when identifying, prioritizing, and assigning appropriate requirements and funding to initiate appropriate program baseline changes.

(h) Support all CPMs in coordination with the Data Stewards for authoritative data and responsible AI across all applicable enterprise programming teams and throughout POM activities and processes according to references (a), (b), (d), (h), (j), (l), (q), (r), (s), (w), (x), (aa), (af), (ag), (ah), (ak), (al), (am), (an), (ao), (ap), and (as).

(i) Plan, integrate, and conduct wargaming that represents the use of established Programs of Record (POR), authoritative data, and responsible AI capabilities. Ensure compliance with VAULTIS and the responsible AI principles during wargames.

(j) Provide CPM guidance to ensure reliable and trusted autonomous and semi-autonomous weapons systems, lethal or non-lethal, are considered, developed, and matured to comply with VAULTIS requirements and responsible AI principles based on references (c), (ap), (aq), and (as).

(k) Where appropriate, CPMs will identify key performance parameters (KPP) for system performance attributes and key system attributes for the future data and AI workforce to implement VAULTIS using authoritative data and ethical AI principles during requirements development according to

references (a), (b), (d), (h), (j), (l), (q), (r), (s), (w), (x), (aa), (af), (ag), (ah), (ak), (al), (am), (an), (ao), (ap), (as), and (ba).

(l) In coordination with COMMARCORSYSCOM and the Milestone Decision Authority (MDA), encourage the maximum use of the Adaptive Acquisitions Framework (AAF) for current and future programs to ensure data and AI capability requirements are designed, procured, tested, upgraded, operated, and sustained to keep pace with technology in accordance with references (ae) through (ah).

(3) Deputy Commandant for Programs and Resources (DC P&R)

(a) Serve as the Marine Corps Financial Data Steward. Inform SDO data management and AI policy development and enforcement efforts. Manage and oversee the implementation of data management and AI policies within the organization.

(b) Provide fiscal counsel to ensure the Marine Corps Critical Infrastructure Program (MCCIP) is feasible within the anticipated Marine Corps Total Obligation Authority (TOA) according to references (a), (b), (d), (h), (j), (l), (q), (r), (s), (w), (x), (aa), (af), (ag), (ah), (ak), (al), (am), (an), (ao), (ap), and (as).

(c) Prioritize PPBEA for data and AI according to the DoD Strategic Management Plan, Force Design 2030, and Force Development and Integration. Include data and AI in the DC CD&I Force Implementation Plan and transition it from planning to programming according to references (a), (b), (c), (d), (h), (j), (l), (q), (r), (s), (w), (x), (aa), (af), (ag), (ah), (ak), (al), (am), (an), (ao), (ap), (as), and (ba).

(d) Provide program and resource analysis to DC CD&I and the MC SDO during all phases of the cost-based analysis for data and AI.

(e) Update DC CD&I on data and AI MCCIP to ensure programs are within the TOA for the current POM cycle.

(4) Deputy Commandant for Manpower and Reserve Affairs (DC M&RA)

(a) Serve as the Marine Corps Human Resources and Human Capital Data Steward. Inform SDO data management and AI policy development and enforcement efforts. Manage and oversee the implementation of data management and AI policies within the organization.

(b) Develop a Talent Management Roadmap that addresses all military and civilian personnel, including the Military Occupational Specialty (MOS) and Office of Personnel Management occupational series conversion of billets. Align with the DC CD&I Workforce Delivery Roadmap, Service-level Data Implementation Plan, and AI Implementation Plan. Inform and prioritize implementation of outcomes from the DC CD&I-led DOTMLPF/C WGs according to references (a), (b), (d), (h), (j), (l), (q), (r), (s), (w), (x), (aa), (af), (ag), (ah), (ak), (al), (am), (an), (ao), (ap), (as), and (ba).

(c) Plan, identify, and appropriately track uniform and civilian personnel with data science, data management, data analysis, and AI talent according to references (a), (b), (d), (h), (j), (l), (q), (r), (s), (w),

(x), (aa), (af), (ag), (ah), (ak), (al), (am), (an), (ao), (ap), (as), (ba), and (bf) and in compliance with references (aw) and (ax).

(d) In coordination with DON CDOs, and DC I, ensure data/AI work role coding efforts are codified in authoritative manpower and personnel systems as part of the DON Data Zero Based Review.

(e) Develop and execute a plan of action to recruit, train and retain data and AI experts.

(f) Create a retention plan for data science, data management, and Artificial Intelligence/Machine Learning (AI/ML) talent pursuant to references (a), (b), (d), (h), (j), (l), (q), (r), (s), (w), (x), (aa), (af), (ag), (ah), (ak), (al), (am), (an), (ao), (ap), (as), and (ba).

(g) Establish policy for workforce training and to advance data and AI/ML education according to references (a), (b), (d), (h), (j), (l), (q), (r), (s), (w), (x), (aa), (af), (ag), (ah), (ak), (al), (am), (an), (ao), (ap), (as), and (ba).

(5) Deputy Commandant for Aviation (DC AVN). Serve as the Marine Corps Aviation Data Steward. Inform SDO data management and AI policy development and enforcement efforts. Manage and oversee the implementation of data management and AI policies within the organization.

(6) Deputy Commandant for Plans, Policies, and Operations (DC PP&O). Serve as the Marine Corps Readiness Data Steward. Inform SDO data management and AI policy development and enforcement efforts. Manage and oversee the implementation of data management and AI policies within the organization.

(7) Deputy Commandant for Installations and Logistics (DC I&L). Serve as the Marine Corps Logistics and Sustainment Data Steward. Inform SDO data management and AI policy development and enforcement efforts. Manage and oversee the implementation of data management and AI policies within the organization.

(8) Commander, Marine Corps Systems Command (COMMARCORSYSCOM)

(a) Serve as the Marine Corps Acquisition Data Steward. Inform SDO data management and AI policy development and enforcement efforts. Manage and oversee the implementation of data management and AI policies within the organization.

(b) In coordination with DC CD&I and the MDA, encourage the maximum use of the AAF for current and future programs to ensure data and AI capability requirements are designed, procured, tested, upgraded, operated, and sustained to keep pace with technology in accordance with references (ae) through (ah).

(c) Conduct Marine Corps Operational Test and Evaluation activity for data and AI.

(9) Commanding General of Training and Education Command (CG TECOM)

(a) Serve as the Marine Corps Training and Education Data Steward. Inform SDO data management and AI policy development and

enforcement efforts. Manage and oversee the implementation of data management and AI policies within the organization.

(b) Be prepared to develop new MOSs and integrate data and AI skills into existing MOSs based on outcomes from the Data and AI DOTMLPF/C WG, Data Implementation Plan, and AI Implementation Plan in coordination with the MC SDO, DC I, DC CD&I and M&RA that is consistent with references (a), (b), (d), (h), (j), (l), (r), (s), (w), (x), (aa), (af), (ag), (ah), (ak), (al), (am), (an), (ao), (ap), and (as).

(c) Identify and explore opportunities to integrate responsible authoritative data, AI, and machine learning applications across the training and education continuum to enhance tactical decision making in contested environments.

(d) Assign a manager to develop and publish authoritative data and responsible AI training doctrine.

(10) Communication Directorate (CD). Serve as the Marine Corps Visual Information Data Steward. Inform SDO data management and AI policy development and enforcement efforts. Manage and oversee the implementation of data management and AI policies within the organization.

(11) Fleet Marine Force (FMF) Commanders

(a) Support DC CD&I in the identification of data and AI requirements to support service, FMF, combatant commands, and U.S. Government activities.

(b) Provide inputs to DC P&R to inform PPBEA.

(c) Support DC CD&I's identification of requirements for data and AI for doctrine, manpower, training, education, and equipment.

(d) Integrate data and responsible AI into wargaming and exercises. Use data and responsible AI capabilities at operational and tactical levels.

(e) Appoint a CDAO to participate in the FDWG and the AIWG.

(12) Office of the Counsel to the Commandant (CL) and Staff Judge Advocate (SJA) to the Commandant of the Marine Corps (CMC)

(a) Consistent with references (bj) and (bk), provide legal advice to the CMC, MC SDO, and other Headquarters Marine Corps departments and organizations for data and AI.

(b) Consistent with references (bj) and (bk), conduct legal reviews of data and AI plans and activities to ensure compliance with domestic and international legal obligations, according to regulations, policies, treaties, and agreements, as applicable.

(c) Consistent with references (bj) and (bk), serve as the Marine Corps Legal Data Stewards. Inform SDO data management and AI policy development and enforcement efforts. Manage and oversee the implementation of data management and AI policies within the organization.

(d) Coordinate with the DoD Office of General Counsel, the General Counsel of the Navy, other DoD Agency General Counsels, the Legal Counsel to the Chairman of the Joint Chiefs of Staff, and the United States Navy's Office of the Judge Advocate General regarding data and AI matters.

(13) Office of Legislative Affairs. Serve as the Marine Corps Legislative Data Steward. Inform MC SDO data management and AI policy development and enforcement efforts. Manage and oversee the implementation of data management and AI policies within the organization.

(14) Data Stewards

(a) Identify, designate, and register ADS in the Marine Corps data catalog and coordinate with the MC SDO and associated governing boards to provide access to authoritative data via an approved API.

(b) Identify and appoint Data Custodians, and CDAOs upon signature of this Order. Data Stewards, Data Custodians, and CDAOs will execute the Data and AI Implementation Plans in coordination with the MC SDO.

(c) Attend the FDWG and AIWG to support the execution of data lifecycle management for ADS and responsible AI governance.

(d) Inform data and AI talent management for the workforce. For their information domain, inform authoritative data and AI training requirements, workforce development, and doctrine encompassing all non-materiel requirements in coordination with CG TECOM, DC CD&I, and DC P&R, and MC SDO according to references (h), (l), (m), (q), (r), (s), (ai), (aj), (ak), (al), (am), and (an).

(e) In coordination with MC SDO, DC CD&I, and DC P&R, provide input to the POM and PPBEA processes for data and AI requirements pertaining to their information domain. Support DC CD&I in the identification of authoritative data and AI requirements to support Marine Corps missions according to references (d), (ae), (af), (ag), (al), (am), and (an).

c. Coordinating Instructions

(1) The FDWG and AIWG will update their charter every three years. As necessary, the FDWG and AIWG will use memorandums of understanding to drive the delivery of data-driven and AI-enabled outcomes.

(2) Data and AI personnel resourcing requirements will be registered with DC CD&I as appropriate and in accordance with DC CD&I requirements development process.

(3) DC CD&I and MC SDO will develop a methodology for data valuation. DC CD&I will integrate data and AI into testing and experimentation with an emphasis on wargaming.

(4) CDAOs for the Program Executive Office Digital and Enterprise Services, DC CD&I, Marine Corps Systems Command (MCSC), and DC P&R will review all existing and emerging programmatic efforts to identify and consolidate duplicative efforts for data and AI into the enterprise solution. Develop and execute a roadmap to upgrade Marine Corps infrastructure to

support data and AI requirements in coordination with MC SDO, DC I, and the FMF on an annual basis.

(5) DC I will initiate automating cybersecurity reviews and approvals in accordance with DevSecOps practices.

5. Administration and Logistics

a. Records Management. Records created as a result of this Order shall be managed according to National Archives and Records Administration (NARA)-approved dispositions in reference (au), SECNAV M-5210.1 w/CH-1, to ensure proper maintenance, use, accessibility, and preservation, regardless of format or medium. Records disposition schedules are located on the Department of the Navy/Assistant for Administration (DON/AA), Directives and Records Management Division (DRMD) portal page at: https://portal.secnav.navy.mil/orgs/DUSNM/DONAA/DRM/Records-and-Information-Management/Approved%20Record%20Schedules/Forms/AllItems.aspx. Refer to reference (av), MCO 5210.11F, for Marine Corps records management policy and procedures.

b. Privacy Act. Any misuse or unauthorized disclosure of Personally Identifiable Information (PII) may result in both civil and criminal penalties. The Department of the Navy (DON) recognizes that the privacy of an individual is a personal and fundamental right that shall be respected and protected. The DON's need to collect, use, maintain, or disseminate PII about individuals for purposes of discharging its statutory responsibilities shall be balanced against the individuals' right to be protected against unwarranted invasion of privacy. All collection, use, maintenance, or dissemination of PII shall be in accordance with the Privacy Act of 1974, as amended [reference (aw)] and implemented per reference (ax).

c. Forms. There are no forms used in this Order.

d. Updates. Updates made to this Order must be done in accordance with the current iteration of reference (bl).

e. Recommendations. Recommendations concerning the contents of this Order are welcomed and may forwarded to DC I (SDO) via the appropriate chain of command.

6. Command and Signal

a. Command. This Order is applicable to the Marine Corps Total Force.

b. Signal. This Order is effective the date signed.

M. G. GLAVY
Deputy Commandant for
Information

DISTRIBUTION: PCN 10255308300

References

(a) "2022 National Defense Strategy," October 27, 2022
(b) "DoD Data Strategy," September 30, 2020
(c) "U.S. Department of Defense Responsible Artificial Intelligence Strategy and Implementation Pathway," June 2022
(d) "DoD Strategic Management Plan Fiscal Years 2022-2026," March 6, 2023
(e) DoDD 5240.01 w/CH-3, "DoD Intelligence Activities," November 9, 2020
(f) DoDD 5143.01 w/CH-2, "Under Secretary of Defense for Intelligence and Security (USD(I&S))," April 6, 2020
(g) DoDD 5250.01 w/CH-1, "Management of Intelligence Mission Data (IMD) in DoD Acquisition," August 29, 2017
(h) MCO 5311.1E
(i) Under Secretary of the Navy Memorandum, "Designation of the Department of the Navy Chief Data Officer," October 2, 2019
(j) SECNAVINST 5000.36A
(k) SECNAVINST 5510.30C
(l) "Naval Data Management Concept of Employment v1.0," August 28, 2020
(m) "Creating Information Superiority at the Speed of Mission: Department of the Navy Implementation Plan of the Department of Defense Data Strategy," October 16, 2020
(n) The United States Marine Corps Data Implementation Plan
(o) "AI Foundations for the Marine Corps: Investment Strategy, Enablers, and Responsible AI," June 2021
(p) DEPSECDEF Memorandum, "Implementing Responsible Artificial Intelligence in the Department of Defense," May 26, 2021
(q) "DoD AI Education Strategy," September 2020
(r) USMC Talent Management 2030
(s) USMC Force Design 2030 Annual Update
(t) DEPSECDEF Memorandum, "Creating Data Advantage," May 5, 2021
(u) DoDD 8000.01 w/CH-1, "Management of the Department of Defense Information Enterprise (DoD IE)," July 27, 2017
(v) "Department of the Navy Information Superiority Vision," February 2020
(w) Tri-Service Strategy, "Advantage at Sea Prevailing with Integrated All-Domain Naval Power," December 2020
(x) MCDP-8
(y) DoDI 8320.02 w/CH-1, "Sharing Data, Information, and Information Technology (IT) Services in the Department of Defense," June 24, 2020
(z) ICD 501, "Discovery and Dissemination or Retrieval of Information Within the Intelligence Community," January 21, 2009
(aa) MCO 5230.21
(ab) Executive Order 14110, "Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence," October 30, 2023
(ac) "Business Enterprise Architecture (BEA) Version 11.2," April 4, 2019
(ad) 10 U.S.C. § 132
(ae) DoDI 5000.02 w/CH-1, "Operation of the Adaptive Acquisition Framework," June 8, 2022
(af) DoDI 5000.87, "Operation of the Software Acquisition Pathway," October 2, 2020
(ag) DoDI 5000.74 w/CH-1, "Defense Acquisition of Services," June 24, 2021
(ah) JCIDS Manual, "Manual for the Operation of the Joint Capabilities Integration and Development System," October 20, 2021
(ai) MCIEE Blueprint Iteration 1.0
(aj) United States Marine Corps Enterprise Network Modernization Plan Iteration 2.2
(ak) "A Concept for Stand-in Forces," December 2021
(al) MCO 5000.27

(am) MCO 7000.1
(an) Under Secretary of the Navy Memorandum, "Department of the Navy Data Management Roles and Responsibilities Framework," August 23, 2021
(ao) MCO 4000.57B
(ap) "Joint All-Domain Command & Control (JADC2) Strategy," March 2022
(aq) DoDD 3000.09, "Autonomy in Weapon Systems," January 25, 2023
(ar) "Final Report: National Security Commission on Artificial Intelligence," March 1, 2021
(as) DON CIO Memorandum, "Designation of the Navy Data Stewards" March 26, 2020
(at) "The Intelligence Community Data Management Lexicon," January 2022
(au) SECNAV M-5210.1 w/CH-1
(av) MCO 5210.11F
(aw) 5 U.S.C. § 552a
(ax) SECNAVINST 5211.5F
(ay) ICD 113, "Functional Managers," May 19, 2009
(az) "Intelligence Community Information Environment (IC IE) Data Strategy 2017–2021"
(ba) DoDD 8140.01, "Cyberspace Workforce Management," October 5, 2020
(bb) DoD CDAO Memorandum, "Guidance on Designating Authoritative Data Sets," November 3, 2022
(bc) "Department of Defense Data, Analytics, and Artificial Intelligence Adoption Strategy"
(bd) 44 U.S.C. § 3520
(be) P.L. § 115-435
(bf) DoDM 8140.03, "Cyberspace Workforce Qualification and Management Program," February 15, 2023
(bg) Commandant of the Marine Corps Memorandum to Deputy Commandant for Information, "Appointment as the Service Lead for Artificial Intelligence," May 21, 2019
(bh) MCO 1200.18
(bi) Marine Corps Training and Information Management System (MCTIMS)
(bj) SECNAVINST 5430.25F
(bk) SECNAVINST 5430.27E
(bl) MCO 5215.1K w/Admin CH-1

Data Workforce Roles

1. Marine Corps Service Data Officer (MC SDO). Responsible for managing and overseeing the implementation of data governance and data management policies within their respective service and assisting the DON CDO in development of data management policies in accordance with reference (an).

2. Associate Data Officer (ADO). Responsible for managing and overseeing the implementation of data management policies within their respective organization and assisting the SDO with the development and enforcement of data management policies.

3. Data Steward. Responsible for creating and implementing data management policies, maintaining the quality of the data within their domain, and coordinating across domains with mission stakeholders to ensure data is consistent, available, and accessible in accordance with reference (an).

4. Data Custodian. Responsible for mission and business data-related tasks such as acquiring, collecting, tagging, and processing data, and granting individual users' access to additional information beyond general systems, applications, and file permissions to perform such functions where appropriate in accordance with reference (an).

5. Command Data and Analytics Officer (CDAO). Responsible for implementing enterprise, domain-specific data management policies and maintaining the quality of the data within their sub-domains. This individual also facilitates the use of tools to drive data-enabled decision making for their respective domain per reference (an).

6. Data Producer. Responsible for producing and managing data in accordance with data management policies; rectifying data quality issues; and participating in data governance activities as required per reference (at).

7. System Owner. Responsible for maintaining systems; ensuring availability, integrity, and confidentiality of data within the system; and providing appropriate system access to data consumers and producers per reference (at).

8. Data Architect. Responsible for the overall data functional construct of an organization, its data architecture and data models, and the design of the databases and data integration solutions that support the organization. Additional detail: design the eco-system (e.g., procedures, governance, and architectures) to hold, manage, process, and preserve or dispose of data. Enable an organization to manage its data as an asset and increase the value it gets from its data by identifying opportunities for data usage, cost reduction, and risk mitigation making data driven intelligence possible in accordance with reference (at).

9. Analytic Developer. A person (e.g., software developer or analyst) who designs, codes, and/or tests software for the exploration and processing of data to discover and identify meaningful information and trends in accordance with reference (at).

10. Data Analytics Specialist. Responsible for querying, engineering, and analyzing data in accordance with data management policies to support mission and business functions and tasks in accordance with reference (an).

11. Data Engineer. Responsible for conditioning data to fit within the data architecture and transforms it to be exploitable. Additional details: transform data into usable and computationally accessible forms, condition data through extraction/cleansing/transformation/loading (ECTL) (aka: data munging), and implement data systems which separate data from application and scale as required per reference (at).

12. Data Modeler. Responsible for reviewing and validating data requirements, providing technical data solutions and designing logical and physical data structures in support of domain-specific needs per reference (at).

13. Data Scientist. Responsible for creating repeatable means to draw key insights and signal from data. Additional details: invent, perfect, or apply algorithms to extract insights from data. Specialists in a range of mathematical, computational, and visualization techniques that allow an organization to draw the greatest benefit from data holdings in terms of insight and decision advantage per reference (at).

14. Data Security Engineer. Responsible for protecting data resources from unauthorized discovery, access, use, modification, and/or destruction. The Data Security Engineer is also responsible for designing and implementing Zero Trust architecture for data protection. Secure data sharing relies on several key functions: data identification, categorization, and labeling; entitlement management; and policy establishment per reference (at). Note: data security is a component of data protection.

Artificial Intelligence (AI) Workforce Roles

1. Artificial Intelligence (AI) Researcher. AI technology and research expert that pushes Marine Corps AI capability forward. Develops new foundational AI techniques and applications. Predicts and prepares for future use cases. Informs innovative approaches to using AI tools.

2. Artificial Intelligence/Machine Learning (AI/ML) Engineer. Builds, tests, integrates, and deploys AI tools. Provides coding and programming expertise. Understands how AI tools will be used and ensures alignment to the ethical AI principles.

3. Test and Evaluation Engineer. Evaluates system capabilities and limitations. Identifies operational risks and accounts for the warfighter's use cases. Understands and identifies AI failure modes. Characterizes performance within and outside operational parameters.

4. Deployment Engineer. Manages the integration, deployment, and operation of AI systems to support combat and non-combat uses. Capable of executing enterprise scale, including network, compute infrastructure, and data engineering pipelines. Manages systems infrastructure. Understands and effectively communicates deployment constraints to the appropriate technical and non-technical decision makers.

5. Artificial Intelligence (AI) Technician. Sets up systems to collect and analyze data. Conducts troubleshooting for ML models. Capable of creating data capture and sharing for combat and non-combat systems. Understands AI tools and coding to identify and resolve issues with models. Is the initial point of contact for the Marine Corps workforce to get help with using AI tools.

6. Product Owner. Turns the product vision into an actionable backlog. Is the voice of the Marine Corps workforce to ensure requirements match needs. Advocates for Marines and civilians in front of the AI development teams. Optimizes the AI tool development process. Coordinates with deployment engineers to ensure rapid delivery.

7. User Interface/User Experience (UI/UX). Designs AI tool interfaces for usability and accessibility. Ensures AI tool interface supports end user accessibility. Understands how to collaborate with personnel that create AI to add Marine and civilian user specifications according to use cases and capability requirements. Shape the way the Marine Corps workforce interacts with AI systems and tools.

APPENDIX A

Glossary of Acronyms and Abbreviations

AAF	Adaptive Acquisitions Framework
ADO	Associate Data Officer
ADS	Authoritative Data Sources
AI	Artificial Intelligence
AI/ML	Artificial Intelligence/Machine Learning
AIWG	Artificial Intelligence Working Group
AO	Authorizing Official
API	Application Programming Interface
BEA	Business Enterprise Architecture
CD	Communication Directorate
CDAO	Command Data and Analytics Officer
CG TECOM	Commanding General of Training and Education Command
CL	Counsel to the Commandant
CMC	Commandant of the Marine Corps
COE	Concept of Employment
COMMARCORSYSCOM	Commander, Marine Corps Systems Command
CPM	Capability Portfolio Manager
DC AVN	Deputy Commandant for Aviation
DC CD&I	Deputy Commandant for Combat Development and Integration
DC I	Deputy Commandant for Information
DC I&L	Deputy Commandant for Installations and Logistics
DC M&RA	Deputy Commandant for Manpower and Reserve Affairs
DC P&R	Deputy Commandant for Programs and Resources
DC PP&O	Deputy Commandant for Plans, Policies, and Operations
DevSecOps	Development, Security, and Operations
DoD	Department of Defense
DoD IE	Department of Defense Information Enterprise
DON	Department of the Navy
DON CDO	Department of the Navy Chief Data Officer
DON/AA	Department of the Navy/Assistant for Administration
DOTMLPF/C WG	Doctrine, Organization, Training/Education, Materiel, Leadership/Communication Synchronization, Personnel, Facilities, and Cost Working Group
DRMD	Directives and Records Management Division
ECTL	Extraction/Cleansing/Transformation Loading
FDM	Functional Data Manager
FDWG	Functional Data Working Group
FMF	Fleet Marine Force
IC	Intelligence Community
IKM	Information Knowledge Management
IMD	Intelligence Mission Data
IT	Information Technology
JADC2	Joint All-Domain Command and Control
KPP	Key Performance Parameters
KSA	Knowledge, Skills, and Abilities
MC SDO	Marine Corps Service Data Officer
MCBC	Marine Corps Business Council
MCCIP	Marine Corps Critical Infrastructure Program
MCIEE	Marine Corps Information Enterprise Environment
MCO	Marine Corps Order

MCSC	Marine Corps Systems Command
MCSWF	Marine Corps Software Factory
MCTIMS	Marine Corps Training and Information Management System
MDA	Milestone Decision Authority
MOS	Military Occupational Specialty
MROC	Marine Corps Requirements Oversight Council
NARA	National Archives and Records Administration
NIST	National Institute of Standards in Technology
NSCAI	National Security Commission on Artificial Intelligence
OSD	Office of the Secretary of Defense
PII	Personally Identifiable Information
POM	Program Objective Memorandum
POR	Program of Record
PPBEA	Planning, Programming, Budgeting, Execution, and Assessment
SDO	Service Data Office
SJA	Staff Judge Advocate
TECOM	Training and Education Command
TOA	Total Obligation Authority
UI/UX	User Interface/User Experience
USD I&S	Under Secretary of Defense for Intelligence and Security
VAULTIS	Visible, Accessible, Understandable, Linked, Trustworthy, Interoperable, and Secure

APPENDIX B

Glossary of Terms and Definitions

1. Application. Any software that uses an existing operating system program to provide the user with a specific capability or system program to provide the user with a specific capability or function that is independent of other "applications." If it is dependent on other applications, it becomes a system.

2. Artificial Intelligence (AI). AI refers to the ability of machines to perform tasks that normally require human intelligence – for example, recognizing patterns, learning from experience, drawing conclusions, making predications, or taking action – whether digitally or as the smart software behind autonomous physical systems.

3. Authoritative Data Source. A source of data or information that is recognized to be valid or trusted because it is considered to be highly reliable or accurate, or is from an official publication or reference; and databases that have been identified, described, and designated in DADMS by appropriate DON Functional Data Managers (FDMs) as the authorized source of data for a given requirement.

4. Cloud Computing. A technology that allows convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction. Depending on user needs, and other considerations, cloud computing services are typically deployed using one of the four models defined in the National Institute of Standards in Technology (NIST) Definition of Cloud Computing.

5. Data Management Plan. A plan that documents how specific data will be collected, processed, used, and curated to facilitate long-term data management decisions and actions. It includes topics such as: description of the data to be collected/created; authority under which data is collected; standards/methodologies for data collection and management; ethics and intellectual property concerns or restrictions; plans for data sharing and access; and strategy for long-term preservation of the data in accordance with reference (at).

6. Machine Learning. The study or the application of computer algorithms that automatically improve through experience. Machine learning algorithms build a model based on training data in order to perform a specific task, like aiding in the prediction or decision-making processes, without necessarily being explicitly programmed to do so.

7. Metadata. Data describing the structure, data elements, interrelationships, and other characteristics of an electronic record. Usually described as data about the data.

8. Responsible Artificial Intelligence (AI). Responsible AI is a dynamic approach to the design, development, deployment, and use of AI systems that implements the DoD AI Ethical Principles to advance the trustworthiness of such systems.

9. Structured Data. Any data that has an enforced composition to the atomic data types. The data is managed by technology, which allows for querying and reporting. A database is structured data.

10. Unstructured Data. Any data in an unstructured format at the atomic level. Refers to computerized information which does not have a data structure that is easily readable by a machine and requires human intervention to make the data machine readable. Examples of unstructured data are e-mail, spreadsheets, or word processing documents.

11. Use Case. A use case is a specific situation in which a product or service could potentially be used.