AIM I and AIM II have provided the Navy training community powerful GOTS tools for standardized NAVEDTRA 130/131-compliant development, management, delivery, and maintenance of instructor-led technical training curricula over the past 15 years. Several AIM user communities have quantified large cost/effort avoidance as a result of using AIM to develop and maintain their learning content over that period. The functionality of these tools has been driven by user community input via the AIM Functional Requirements Board (FRB).

The Navy is now in process of significantly changing the description of work/requirements, business rules, delivery modes, and content formats by which learning content will be structured, delivered, and tracked. Traditional AIM requires several enhancements, now being coordinated with revised NETC guidelines as they emerge, to meet these new requirements including:

- Cross-system linking of requirements, learning objectives and content
- Capability to develop ILE compliant Lessons (TLOs) and Sections (ELOs)
- Unified enterprise-wide data storage and sharing, enabling community wide “searchability” and R3 (reuse, repurpose, reference)
- Support for real-time enterprise-wide collaboration
- Support for development of blended instructor-led training (ILT) and self-paced/web-based training
- Workflow capability
- Surveillance capability for finalized ILE ILT and self paced material
- Support for development of learning continuums

This document defines the AIM Program plan for moving forward from the traditional AIM I / AIM II baseline to support the new content formats and business rules while continuing support for the more than 300,000 hours of traditional AIM I/AIM II LP/TG-based content now in place.

The plan addresses:

- Traditional AIM I/AIM II capabilities on which the modernization is based
- Initial modernization of AIM I/AIM II capabilities reflecting preliminary adaptation of traditional content and functionality to the revised guidelines
- Transitional phase of spiral development for progressive integration of the results of ongoing R&D and clarification of functional requirements via prototype projects
Modernized AIM which will reflect a fully operational system incorporating Transitional Phase enhancements as allocated by the NETC and AIM FRB governance process

1.0 Traditional

Historically, the AIM software has automated the instructor led curriculum development processes used in support of Navy Training. Two versions of this software are in use in support of the Navy Training mission. These versions directly support NAVEDTRA 130B and 131B which document the Navy requirements for instructional system design and content development. Over 300,000 hours of US Navy training is currently in this format. AIM is the only tool available that provides integration of curriculum development and delivery with the direct links to the authoritative Technical Manuals (TM) and Interactive Electronic Technical Manuals (IETM) used to support technical training. Naval Air Warfare Center Training System Division (NAWCTSD) System Support Office (SSO), led by the Navy's AIM Program Manager, functions to provide robust Help Desk, user training, and on-site technical support services.

AIM-generated materials can be printed or exported directly into HTML, PDF, or SCORM compliant XML-based output. Electronic classrooms using electronic classroom integration software (ECIS) can directly access their AIM XML output, support instructor personalization of the training content, and display that personalized content to their learners with all media and technical data links intact.

Hallmarks of the AIM program include:
- A 15-year tradition of adapting /evolving to meet changing customer needs
- Cross-domain sponsorship (aviation, undersea, surface, special warfare)
- Providing automated tools to support specific Navy functional requirements and policy guidance (initially NAVEDTRA 130/131, for example)
- Execution through strong cross-domain user support and guidance via AIM Functional Requirements Board (FRB) and unique, highly effective, subordinate Center and SYSCOM supported cross-functional teams
- High-level guidance via a Resource Sponsor Configuration Control Board (CCB)
- Robust Help Desk and user training provided by AIM SSO
- Integration with other tools including CeTARS and self-paced authoring tools via web-servicing

Milestones in AIM product evolution include:
- Mission Needs Statement – FY90
- Original Unix/Oracle version – FY92
- Milestone III acceptance of AIM as program of record – FY94
- Windows/MS-Access per NAVEDTRA 130 series – FY96/97
- SQL Server; SCORM 1.2 output; IETM interface – FY01/02
- Word as editor; IMI Library – FY02/03
- Prototype Learning Object Module – FY05/06
- AIM I/II registered in DADMS baseline and certified by NMCI – FY05
2.0 Initial Modernization Release

AIM Learning Object (LO) Module (integrated into AIM I/II Release 3.3) completed NMCI certification testing and was pushed to users in May-Jun 2008.

This initial modernization release of AIM included all the functionality of Release 3.2.1, updated the various SCORM/XML outputs from LP/TG content, and provided new capability supporting the development of Integrated Learning Environment (ILE)-compliant instructor-led training (ILT) learning objects in accordance with current guidance documents. This ILT is linked to skills/competency based requirements and packaged in the form of Sections and Lessons, aggregated into Modules and Courses. Sections are Enabling Learning Objects (ELOs), which are aggregated to form Lessons – Terminal Learning Objects (TLOs). This initial modernization release also supported the capability for current AIM users to “mine” their existing AIM LP and TG content and to reuse it as appropriate to efficiently complete templates for ILE-compliant Sections. This new release was based on extensive feedback from the AIM user community via the FRB and various Center and System Command (SYSCOM) activities.

The AIM LO Module Release 3.3 supported the emerging requirements and guidance. Principal functional requirements and guidance supported included:

- OPNAVINST 1500.76A Naval Training Systems Requirements, Acquisition and Management
- OPNAVINST 1500.74A Utilization Of Enlisted Occupational Standards For Training And Career Development
- MIL-HDBK-29612-2A
- Navy ILE Content Developer's Handbook, MPT&ECIOSWIT-ILE-HDBK-1B, 1 Sep 07
- Navy ILE Instructional Systems Design and Instructional Design Process, MPT&ECIOSWIT-ILE-GUID-1B, 15 Aug 07
Principal technical requirements and guidance included:
• NSCORM schema
• Navy ILE Technical Specifications and Guidelines, MPT&ECIOSWIT-ILE-SPEC-4D, 15 Aug 07
• Navy ILE XML Specification, MPT&ECIOSWIT-ILE-SPEC-2B, 10 Apr 07
• Navy LCMS XML Schema, 2 Feb 04

As a transitional capability from AIM’s traditional desktop application environment and multiple activity-specific databases to a fully Web-based implementation, NAWCTSD also hosted a Citrix Metaframe-based AIM Central Site capability that allows user communities to access AIM over the Web and integrate geographically dispersed development and user activities in an integrated central database. The AIM Program Manager continues to work closely with the AIM FRB and NETC N6 to develop implementation plans for transition to an AIM community-wide Central Site system.

3.0 Transitional Phase.

The AIM team has now completed an in-process modernization release (AIM I/II Rel 4.0) for NMCI certification and push to users in Jul-Aug 2009, leading to a fully modernized release (AIM I/II Rel 4.1) in mid-2010.

This transitional release of AIM Modernization more fully supports ILE functional requirements and begins to field some of the web-services and related capabilities to support the enterprise data environment. For example, CPM data is integrated with AIM LO Module via repository-based web-services. A key component of this phase ensures that links between validated job tasks, NLOS, learning content objects, and technical data are established, versioned, surveyed and maintained using web-services.

Figure 1 shows the transition to Modernized AIM and the evolving requirements that are driving this modernization effort.
4.0 AIM Modernized. The Modernized AIM System will be fully integrated with the enterprise data environment through web-services. It will incorporate CPM, adapt current training requirement data models, and transition NAVEDTRA 130B/131B course and content planning functionality now provided by AIM to meet modernized process and product guidance. Modernized AIM will adhere to all requirements of systems and data architecture and will support the latest functional requirements as described in authoritative governance documentation and interpreted/allocated to the AIM system by authorized governance bodies.

Specifically the Final Operational Capability (FOC) of modernized AIM will:

a. Support Training Task Analysis based on authoritative competency/performance/Job-Duty-Task Analysis (JDTA) data as determined by NETC N74
b. Develop and maintain NLOS tied to competencies/JDTA data (training requirements).
c. Develop Content Outline of Instruction (COI) based on approved NLOS
d. Generate course planning data and other project management data in CPM similar to the traditional TPP/TCCD and output that data via web services to the enterprise data environment and from there to CeTARS
e. Search for existing NLOS and LOs via Government Repository Integrated Metadata Repository (IMR) for Reuse, Repurpose, Reference (R³)
f. Support development and maintenance of Assessment Items tied to authoritative technical data sources

g. Support analysis and selection of Instructional Media

h. Develop TLO/ELOs for ILT and storyboards for CBT with:
   i. Full NSCORM metadata
   ii. Automated Portion Marking (pending NETC policy and process clarification)
   iii. Linkage to NLOSs
   iv. Linkage to authoritative technical data sources (including S1000D Common Source Databases)
   v. Export storyboard data to external CBT authoring tools for completion of rich, interactive self-paced content
   vi. Import updated content data from external CBT authoring tools to support use of LO Module Change Impact Report surveillance functionality across both ILT and self-paced courseware

i. Generate revisions/changes to LO Module-developed TLO/ELOs for ILT based on change impact reporting from and authoritative data synchronization with a Government Repository

j. Provide the capability to link training event(s) required to satisfy established training requirements defined in JDTA and NLOS data

k. Submit ILE-compliant NSCORM content to a Government Repository for configuration management, ADL-R registration, search, re-use, and reference

l. Support life-cycle surveillance and maintenance both within CPM and the LO Module and with content development tool-agnostic Web service surveillance working directly with a Government Repository

m. Support basic workflow (review and comment) capability

Figure 2 illustrates the proposed end-state of this process with Modernized AIM functional capabilities identified in the previous paragraphs a. – n. shown in red. Non-AIM elements of the ILE environment are depicted in yellow (government-managed repositories) and blue (other Navy training enterprise software applications).
Timeline for modernization:

- AIM I/II Rel 3.3: NMCI pushed to AIM user communities May-Jun 2008
- AIM I/II Rel 4.0 with CPM 3.1: NMCI pushed to AIM user community in Jul-Aug 2009
- AIM I/II Rel 5.0 with CPM 5.0: fully modernized AIM suite of tools, NMCI push to AIM user community in May-Jun 2010