

**Airline Industry Data Model**

*AIDM Guidelines*

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**Revision History**

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| --- | --- | --- | --- |
| **Version** | **Date** | **Name** | **Description of change** |
| 0.1 | 10 Jun 2019 | Graham Ferguson | First draft, to provide a document that can introduce scratch pads. |

# Document Introduction

## Document Purpose and Intended Audience

The purpose of this document is to describe the Airline Industry Data Model (AIDM).

The intended audiences of this document are all individuals involved in defining terms:

* members of PSC (Passenger Services Conference) Standards application work-groups defining terms as part of BRD development,

These individuals have a variety of profiles including Airline and IT supplier Business Analysts, Enterprise Architects, Data Modelers.

This document is owned by the Methodology Group operating under the Architecture, Technology & Strategy Board.

## Document Context

The AIDM is published by IATA as a foundational layer for the development of airline messaging standards in XML, JSON or any other data format that may emerge in the future.

# AIDM Overview

IATA’s Airline Industry Data Model is an infrastructure project that will see the upgrade of our messaging standards development capability.

Structured information will be available in an electronic repository known as the Airline Industry Data Model or AIDM. It will store industry-agreed vocabulary, data definitions and their relationships, and messaging and interface standards, as well as the related business requirements.

## AIDM Benefits

The substantive benefits of the AIDM are:

* Increased consistency of definitions and format of data exchanges improves interoperability across the industry
* Faster time to market of new or changed data exchange standards
* Faster deployment of industry standards through quality and visibility

## AIDM Status

The underlying infrastructure is now in place and industry working groups in need of new messaging standards started using this capability and associated methodology. IATA provided resources to develop this industry capability.

The AIDM is being populated progressively as industry groups request new messages. To facilitate the task for initial projects, a specific effort was developed to model [core data objects](https://corp-extranet.iata.org/sites/padis/IDM%20Methodology/core%20objects.aspx) such as Passenger and Bag to be re-used by multiple working groups. These core data objects are included in the initial release of the AIDM.

# AIDM Framework

The AIDM architecture is based on established international standards and enterprise architecture frameworks such as the Zachman Framework and TOGAF. All information in the model is organized in a cube-like structure with the three dimensions being Pillars, Layers and Stakeholder Views. Standards, Tool Implementations and Guidelines have been developed for each combination of Pillar and Layer that is in use.

## Pillars

Pillars represent different types of information stored in the Model.

**Business Pillar (B)** contains information most relevant to the business including the business architecture organized in a [Value Chain](https://corp-extranet.iata.org/sites/padis/IDM%20Methodology/Concepts/Value%20Chain.aspx), business processes,  and process scenarios.

**Information Pillar (I)** is the heart of the AIDM as this is the pillar describing the industry data including terms, information domains, and data elements such as classes, properties, and associations. AIDM follows the principles of semantic modeling where all classes are classified and organized in [information domains](https://corp-extranet.iata.org/sites/padis/IDM%20Methodology/Concepts/Information%20Domains.aspx).

**Technology Pillar (T)**contains the descriptions of industry standard messages as they are being implemented using various technologies.

## Layers

Layers represent different levels of detail or physicality. The first three  layers are [platform independent](https://corp-extranet.iata.org/sites/padis/IDM%20Methodology/Concepts/PIM%20and%20PSM.aspx). This means that the information stored in them does not change irrespective of the message standard XML, EDIFACT or some other future data exchange format.

**Contextual layer (1)** contains general classifications to all users to know if which context they are working.

**Conceptual layer (2)** is not in use.

**Logical layer (3)** contains detailed and highly structured information about all data elements required to develop industry standard messages.

**Physical layer (4)**generally contains the same level of detail as the logical layer but information on this layer is organized in a format specified by the messaging technology that will be used to store or exchange the data. Most of the information on the physical layer is generated from the logical layer using automated transformation tools. This is the [platform dependent](https://corp-extranet.iata.org/sites/padis/IDM%20Methodology/Concepts/PIM%20and%20PSM.aspx) layer of the AIDM.

## Stakeholder Views

### Governance View

The Governance View represents the Integrated Airline Industry Data Model. There is only one Governance View and all models contained in this view are shared by all users of the AIDM. Proposals to modify or add elements to the Governance View are subject to governance review and ratification. Typically, the perspective of multiple stakeholder groups need to be considered when changing models in the Governance View. Examples of such models are the Business Terms, Acronyms & Abbreviations, Message Headers, and the Value Chain. Governance View is included in publication of the AIDM.

### Operational View

Operational Views may contain models specific to specific business domains. For example, separate Operational View may be developed to store Baggage Management Models. Proposals to modify and add models in Operational Views are also subject to governance review but the impact of changes in Operational Views is likely to be limited. Examples of such models are Baggage Operations Use Cases or Physical Models of Baggage Operational Messages. Operational Views are included in publication of the AIDM.

### Reference View

Reference View contains information that may be useful for the development of future messaging standards but has not been formally reviewed by the governance bodies guarding the content of AIDM. This could include work in progress of ongoing projects, Models of third-party schemas or other industry references that may have not been developed in accordance with the AIDM guidelines.

# AIDM Tool

The AIDM uses Sparx Enterprise Architect (EA) which is a UML based modelling tool.

## AIDM Universal Standards

This section defines standards that apply to all pillars of the AIDM.

### Creating any kind of Objects with the right Stereotype

EA Objects and EA Diagrams must always be created with the appropriate stereotype e.g. IATA\_Business Term, IATA\_ABIE, IATA\_BusinessProcess. This is important in order to have the correct set of standard information fields as well as AIDM-specific information fields (EA “tagged values”). Most significantly, the automated scripts and reports use these stereotypes to identify which elements to act upon so specifying the correct stereotype is critical to successful synchronizations, transformations and so forth.

The possibility of EA to change the stereotype of an object must not be used, as it would cause wrong tagged values to appear with the object. For instance, making a copy of an Info Concept then changing its stereotype to IATA\_ABIE thereby “conveniently” copying the definition is forbidden. The only exception are the Business Terms which all have the same tagged values, and which can and may have to be re-stereotyped in the course of modeling.

To create objects with the correct stereotype from the beginning on, one of the following two methods can be used:

|  |  |  |
| --- | --- | --- |
| * Simplest method:  Drag and Drop the object of the right type from the tool-box into the diagram where  it should first appear. IATA-stereotyped diagrams automatically trigger the specific toolbox to be displayed, offering only the appropriate stereotypes. |  | Sample toolbox: |
| * Or use the New Element button in the top menu of the project browser:     then select IATA ML xxx  as a toolset, before selecting the Type on the left side. |  |  |
| * For Diagrams, use the New Diagram button in the top menu of the project browser:   then select IATA Diagrams under “Select From”, before selecting the Diagram Type on the right side. |  |  |

### Naming Rules applying to all Objects

1. Spelling is in American English.  
   *Note:* this also applies to writing composite terms in either one or multiple words. For instance, while IATA standards use the word “Seatmap”, this spelling in one word is incorrect English. AIDM will use correct English spelling, i.e. “Seat Map”.
2. Multi-worded names of terms will have spaces between the words. Each noun must start with a capital letter.

## AIDM Universal Utilities

### Scratch Pad

A scratch pad is a package within the AIDM tool that allows the user to create objects, connectors, and attributes, and diagrams of any type with only the restriction of the capabilities of Enterprise Architect. The user is free to use the package in any way they feel necessary to support the project they are working on. Each project may have as many scratch pads as required, the only demand is that redundant scratch pads are removed as soon as possible and that all scratch pads for a project be removed on project completion.

Scratch pads are afforded the same backup and recovery process as any other part of the AIDM but all other criteria being equal have a lower priority than the components that constitute a standard.

Scratch pad packages must be stereotyped as “AIDMScratchPad”; see example in Figure 1.

Typically, a project may use a scratch pad to:

* graphically describe the scope of the project from a process, data, or any other perspective;
* produce diagrams to present specific aspects of the integrated, project or message models by hiding or showing appropriate elements and adding annotations;
* show how existing elements might be modified to support new capabilities.

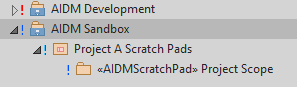


Figure - Example Structure of a Project's Sandbox