



Asset Information Requirements

Autodesk School of Design

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PRJ001

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1. Document Overview

This document outlines the **Asset Information Requirements (AIR)** for the **Autodesk School of Design and BIM**, ensuring structured asset information aligned with Autodesk's BIM methodologies. The AIR defines the **data, documents, and geometry** necessary for the **Asset Information Model (AIM)**, which will support the operation, maintenance, and lifecycle management of the school building.

2. Document Ownership & Authority

- **Owner:** Autodesk Facilities Management
- **Approved By:** [Insert Name]
- **Date:** [Insert Date]

3. Asset Information Requirements (AIR) – Explained

The **AIR** details asset data required at different stages, supporting digital collaboration through **Autodesk Construction Cloud (ACC)**. This includes:

- **Organizational Information Requirements (OIR)**
- **Exchange Information Requirements (EIR)**
- **Project Information Model (PIM)**

The information will be **structured, classified, and linked** to the **Common Data Environment (CDE)** for seamless access.

4. Who Needs to Input to the AIR?

Stakeholders involved in defining and managing the AIR include:

- **Project Board**
- **Facility Management Teams**
- **Design & Construction Teams**
- **BIM Managers**
- **Contractors & Subcontractors**
- **Consultants (MEP, Structural, Architectural)**

5. Information Requirements

The Autodesk School of Design and BIM will follow **[insert relevant standards]** standards. The AIM will store:

a) Legal Information

- Asset ownership records
- Facility compliance documentation
- Risk assessments

b) Commercial Information

- Asset descriptions and functions
- Supplier details and lead times
- Maintenance schedules

c) Financial Information

- Whole-life cost analysis
- Operational & replacement costs

d) Technical Information

- Engineering specifications
- Installation & commissioning data
- Performance monitoring data

e) Managerial Information

- Unique asset identifiers
- Spatial references
- O&M manuals
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6. Maintainable Assets

The **AIM** will include the following key **maintainable assets**, classified using **Uniclass 2015**:

Asset code	Floor - Space	Instance	Classification	Category
0001	00-0001	0001	EF_25_30	Doors

Table 6.1: Asset information requirements

6.1. Introduction

This **Schedule of Maintainable Assets** provides a comprehensive list of assets that require ongoing maintenance within the scope of the Asset Information Requirements (AIR). It ensures that all maintainable assets are recorded, categorized, and managed effectively throughout their lifecycle.

6.2. 2. Asset Categories

Maintainable assets are grouped into categories based on their function and maintenance requirements. These include but are not limited to:

- **Mechanical Systems** (e.g., HVAC, pumps, boilers, compressors)
- **Electrical Systems** (e.g., lighting, switchgear, distribution boards, generators)
- **Plumbing & Drainage Systems** (e.g., water supply, drainage pumps, sanitary fittings)
- **Building Fabric** (e.g., roofs, doors, windows, facades, internal partitions)
- **Fire Protection Systems** (e.g., sprinklers, fire alarms, extinguishers, suppression systems)
- **Vertical Transportation** (e.g., elevators, escalators, conveyors)
- **IT & Communication Systems** (e.g., servers, network switches, intercoms, security cameras)
- **Specialist Equipment** (e.g., medical equipment, laboratory instruments, kitchen appliances)

6.3. Asset Register

The following table provides an example of a structured list of maintainable assets, their key attributes, and maintenance responsibilities:

ID	Name	Category	Space	Manufacturer	Model	Serial	Maintenance Frequency	Responsibility
MP0001	Booster pump	Mechanical	B1-00-001	Company name	X001	123456	Quarterly	Facilities team
ES0001	Main switchgear	Electrical	B2-01-001	Company name	Y001	7891234	Annual	Electrical contractor
FA0001	Fire alarm panel	Fire protection	B1-B1-001	Company name	Z001	5678901	Semi-annual	Fire safety team
PL001	Passenger lift	Vertical transport	B1-00-010	Company name	A001	246810	Bi-monthly	Lift maintenance contractor

Table 6.3.1 Example asset register

6.4. Data Requirements

Each maintainable asset should have associated asset information, including:

- **Unique Asset ID** (for tracking and reference)
- **Technical Specifications** (manufacturer, model, capacity, dimensions, etc.)
- **Operational and Maintenance Manuals**
- **Warranty Information** (coverage, expiration date)
- **Maintenance Schedules** (preventive, corrective, and reactive maintenance)
- **Performance and Condition Data**
- **Compliance and Regulatory Documentation**

6.5. Maintenance Strategy

The maintenance of assets shall be carried out in alignment with the organization's overall asset management strategy. The key components include:

- **Preventive Maintenance:** Scheduled servicing based on manufacturer guidelines.
- **Condition-Based Maintenance:** Maintenance triggered by real-time asset condition monitoring.
- **Corrective Maintenance:** Repairs undertaken upon failure or performance degradation.
- **Lifecycle Planning:** Evaluating the expected lifespan and planning for asset replacement.

6.6. Sustainability Information Requirements

The sustainability performance of assets shall be managed in alignment with the organization's environmental and social responsibility strategies. The key components include:

- **Energy Efficiency:** Monitoring and reporting energy consumption to optimize operational performance and reduce carbon footprint.
- **Embodied Carbon Assessment:** Evaluating the carbon footprint of materials and construction processes to support sustainable procurement and lifecycle decisions.
- **Circular Economy Considerations:** Ensuring materials and components can be reused, recycled, or responsibly disposed of at end-of-life.
- **Water Management:** Tracking water usage and implementing conservation strategies to minimize waste and promote efficiency.
- **Air Quality and Environmental Impact:** Monitoring indoor air quality, emissions, and other environmental factors to ensure compliance with regulations and best practices.
- **Sustainable Certifications and Compliance:** Ensuring adherence to standards such as BREEAM, LEED, or ISO 14001, and maintaining records for certification and audits.

- **Biodiversity and Ecological Impact:** Identifying and mitigating any potential impacts on local ecosystems and biodiversity.
- **Sustainable Procurement:** Prioritizing suppliers and materials that align with the organization's sustainability goals, including ethical sourcing and low-impact alternatives.

Sustainability aspect	Policy	Information Requirement	Information Container	Criteria
Energy consumption	- {Client's Name} Sustainability Policy	- Measured energy use (kWh/m ²) - Carbon emissions (kgCO ₂ /m ²) - Total annual energy consumption (kWh/m ² per year)	Digital spreadsheet (.xlsx)	Must align with energy efficiency standards
Water use	- {Client's Name} Water Management Plan	- Annual water consumption (litres per m ² or per occupant)	Digital spreadsheet (.xlsx)	Must align with environmental standards
Waste management	- Local Waste Regulations	- Total waste generated (tonnes per m ² per year)	Digital spreadsheet (.xlsx)	Must align with environmental standards
Sustainability performance	- Industry Environmental Codes	- Key performance indicators (KPIs) - System specifications	Digital spreadsheet (.xlsx)	Must meet defined sustainability benchmarks

Table 6.6.1: Sustainability information requirements

6.7. Asset Handover and Updates

All updates to the asset register must be documented and submitted in the Common Data Environment (CDE). Updates should occur:

- After new asset installations
- Following asset replacements or decommissioning
- Post-maintenance interventions
- During routine asset condition assessments

6.8. Compliance and Regulatory Requirements

All maintainable assets must comply with relevant safety, environmental, and operational regulations. These include:

- **Health and Safety Executive (HSE) guidelines**
- **Building Regulations**
- **ISO Standards (e.g., ISO 55000 for Asset Management)**
- **Local Authority Fire and Safety Regulations**

7. Data Drop & Responsibility Matrix

- **Data Drop 1:** Initial asset identification (**Concept Design**)
- **Data Drop 2:** Detailed asset data (**Technical Design**)
- **Data Drop 3:** As-built asset verification (**Construction Completion**)
- **Data Drop 4:** AIM handover & validation (**Handover & Closeout**)

Each contractor is responsible for ensuring asset data is **accurate, validated, and delivered** at each **Data Drop milestone**.

8. COBie & Data Exchange

The **Autodesk School of Design and BIM** will use **COBie** for structured asset information exchange. All asset data will be recorded within **Autodesk Construction Cloud (ACC)** and validated before **handover to facilities management**.

9. References

- **ISO 19650** – BIM Information Management
- **COBie Standard** – Structured Asset Data Exchange
- **Uniclass 2015** – Asset Classification