

# Master Data – Equipment Integration Specification



InEight®  
PLATFORM



## Changelog

This changelog contains only significant or other notable changes to the document revision. Editorial or minor changes that do not affect the context of the document are not included in the changelog.

Rev	Date	Description
2.1	16-AUG-2019	Moved existing information to new template
2.2	18-SEP-2019	Added <a href="#">Equipment (Get)</a>
3.0	03-OCT-2019	Published revision
3.1	07-JAN-2020	Updated fields (removed Model) and field descriptions for <a href="#">Equipment (Post)</a>
4.0	17-APR-2020	Published revision.
5.0	08-MAR-2021	Added Field Descriptions table for <a href="#">Equipment (Post)</a> . Published revision (Release 21.1)
6.0	05-OCT-2022	Updated EquipmentSystemStatus field description for clarity in <a href="#">Equipment (Post)</a> . Published revision.
7.0	27-SEP-2023	Added AcquisitionValue and ConstructionYear fields to <a href="#">Equipment (Post)</a> and <a href="#">Equipment (Get)</a> . Published revision (23.8).

## Contents

<b>Overview .....</b>	<b>1</b>
Integrations in This Document.....	1
Relationships and Dependencies.....	1
Equipment Category.....	1
Equipment Type .....	2
Equipment.....	2
Assignment of Equipment to a Project .....	2
Assignment of Equipment Types and Rates to a Project.....	2
Prerequisites.....	3
Currencies and Units of Measure .....	3
Related Integrations.....	4
<b>Equipment Categories.....</b>	<b>5</b>
Fields.....	5
Field Descriptions .....	5
Error Messages .....	6
Sample JSON.....	7
Verification.....	8
<b>Equipment Types .....</b>	<b>9</b>
Fields.....	9
Field Descriptions .....	10
Error Messages .....	11
Sample JSON.....	12
Verification.....	13
<b>Equipment (Post) .....</b>	<b>14</b>
Fields.....	14
Field Descriptions .....	15
Error Messages .....	16
Sample JSON.....	18
Verification.....	19

<b>Equipment (Get)</b> .....	<b>20</b>
Supported Filters .....	20
Fields .....	20
Field Descriptions .....	20
Sample .....	21
Verification .....	21

## Overview

This document describes the creation and maintenance of the master library of Equipment and their hierarchical association of Categories and Types.

### Integrations in This Document

Integration	Description
Equipment (Post)/(Import)	The Equipment Integration allows customers to provide and maintain a complete list of equipment that can be used on any given project. In this integration, it is expected that Equipment refers to items that are mobile, have an estimated usage rate, and can be tracked by hours of usage. Equipment can include cranes, backhoes, generators, trucks used for transportation, and any other trackable resource. This integration includes specific details about the equipment such as, manufacturer, model, serial number, and whether the equipment is owned by the customer or is rented.
Equipment (Get)	Provides all Employee records created in the InEight cloud platform for use in any project.
Equipment Categories	The Equipment Categories Integration allows an external system to maintain a master list of Equipment Categories in the InEight cloud platform.
Equipment Types	The Equipment Types Integration allows an external system to maintain a master list of Equipment Types in the InEight cloud platform.

### Relationships and Dependencies

Within InEight are individual units of equipment, including both owned and rented construction equipment, which are categorized in a three-tier hierarchical structure. This allows Users to search and filter in the system when making an assignment of a specific piece of equipment for planned or operated hours. The equipment names (or labels) used in each level of the hierarchy are defined by the customer and maintained via the integrations.

#### Equipment Category

The top level of the hierarchy is Equipment Category and generally contains names such as cranes, bulldozers and fleet vehicles.

## Equipment Type

The second level of the hierarchy is Equipment Type. Each Equipment Type must be assigned to only one Equipment Category. Some examples are as follows:

Equipment Type	Equipment Category
Komatsu Dozers 0-150	Bulldozers
Komatsu Dozers 151-260	Bulldozers
Komatsu Dozers 261-500	Bulldozers
Komatsu Dozers 500+	Bulldozers

## Equipment

The last level of the hierarchy are the specific units of equipment. Identification of a specific unit can be managed using any method that is the most logical to the business process of the customer. In some instances, asset tags that have a unique ID assigned to each tag are used, while other instances the Vehicle Identification Number (VIN) assigned by the manufacturer is used. InEight supports any unique value that is provided for each Equipment record.

**NOTE:** Each Equipment record can be assigned to only one Equipment Type

## Assignment of Equipment to a Project

Like an employee, each unit of equipment must be directly assigned to a project for it to appear as a selectable item within project-level functionality of InEight applications. For example, when adding operated hours against a specific piece of equipment, the unit must have first been assigned to the project.

**NOTE:** Assignments of equipment to projects are done via the Project Equipment Integration which is documented as part of the Project Setup integration group.

## Assignment of Equipment Types and Rates to a Project

InEight allows customers to set estimated planned rates for equipment based on their equipment type, differently for each project. For instance, project A may have a rental agreement for Komatsu Dozer 0-150 at an estimated unit cost of \$43 per hour (based on a monthly or weekly rent divided by expected hours per week usage), while project B is in an extremely remote location and has an estimated unit cost of \$60 per hour for the same type of bulldozer.

**NOTE:** The assignment of rate to equipment type for a project is done via the Project Equipment Type Integration which is documented as part of the Project Setup integration group.



## Prerequisites

The following table lists prerequisites to using the integrations in this document. These may be the presence of required supporting data or system configurations. All items in the table represent required fields within the integrations. There are many other fields within the integrations that reference data from various areas of InEight but are optional and will not prevent the addition or update of a record. These optional fields are called out within the individual integration field descriptions.

Prerequisite	Description	Required by
Equipment Type	Must match a valid Equipment Type record provided either by integration or manually entered through the UI under Library > Operational resources.	Equipment
Currency	Must match a valid Currency record	Equipment
Unit of Measure (UOM)	Must match a valid Unit of Measure record.	Equipment
Equipment Category	Must match a valid Equipment Category record provided either by integration or manually entered through the UI under Library > Operational resources	Equipment Types

## Currencies and Units of Measure

The following prerequisite information should be set up before initiating the equipment data import.

- Master list of Currency
- Master list of Units of Measure

### Currency Master Data View

Currency code	Name	Entity	Symbol
TND	Tunisian Dinar	TUNISIA	د.ت.
TRY	Turkish Lira	TURKEY	YTL
TMT	Turkmenistan New Manat	TURKMENISTAN	m.
AED	UAE Dirham	UNITED ARAB EMIRATES (THE)	.د.
UGX	Uganda Shilling	UGANDA	UGX
CLF	Unidad de Fomento	CHILE	UF
COU	Unidad de Valor Real	COLOMBIA	COU
UYI	Uruguay Peso en Unidades Indexadas (UR...	URUGUAY	UYI
<b>USD</b>	<b>US Dollar</b>	<b>UNITED STATES OF AMERICA</b>	<b>\$</b>
USN	US Dollar (Next day)	UNITED STATES OF AMERICA (THE)	USN
UZS	Uzbekistan Sum	UZBEKISTAN	лB
VUV	Vatu	VANUATU	VT
CHE	WIR Euro	SWITZERLAND	CHE
CHW	WIR Franc	SWITZERLAND	CHW

**US Dollar**

Currency code Entity: USD UNITED STATES O...

Symbol Created by: \$ Service Account

© 2018 InEight Inc [Privacy and Terms](#) | Build: Local 2.0.6625.18957 | XMYmM | User: uttam.dass <uttam.das@ineight.com>

**Unit of Measure Master Data View**

Library
?
⚙️
🔒

Units of measure (UoM)

Name	Measurement type	Base UoM	Conversion factor	Measurement system	Default al
Gallon	Area	Square Meter	1.000000000000	Both	Square M
Cubic Kilometer	Area	Square Meter	1.000000000000	Both	Square M
Pound	Area	Square Meter	1.000000000000	Both	Square M
Square Feet	Area	Square Meter	1.000000000000	Both	Square M
Month	Area	Square Meter	1.000000000000	Both	Square M
Day	Area	Square Meter	1.000000000000	Both	Square M
Week	Area	Square Meter	1.000000000000	English	Square M
Road Crossing	Unit	None	1.000000000000	Both	Ea
Saurabh test	Area	Square Meter	1.000000000000	English	Square M
Acre	Area	Square Meter	0.404685642000	English	HA
Barrel	Unit	None	1.000000000000	Both	Barrel
Cubic Meter	Volume	Cubic Meter	1.000000000000	Metric	Cubic Yar
Cubic Yard	Volume	Cubic Meter	0.764554857984	English	Cubic Me
CY	Volume	Cubic Meter	0.764554857984	English	Cubic Me

**Gallon**

Measurement type: 1.000000000000

Conversion factor: Square Meter

Base UoM: Both

Measurement system: Square Meter

Default alternate measurement: Square Meter

© 2018 InEight Inc [Privacy and Terms](#) | Build: Local 2.0.6625.18957 | tk+JC | User: uttam.dass <uttam.das@ineight.com>

**Related Integrations**

Integration Name	Description	Document Name
Project Equipment	The Project Equipment Integration allows InEight customers to provide a list of specific Equipment that is usable within a Project. Records sent in this integration must match the Master Equipment records for the customer (see Equipment Integration Specification).	InEight Project Initiation and Maintenance Integration Specification
Project Equipment Types	The Project Equipment Type Integration allows InEight customers to maintain specific rates for equipment types on a specified project.	InEight Project Initiation and Maintenance Integration Specification



## Equipment Categories

<b>Direction</b>	To InEight	
<b>Frequency</b>	Determined by external system.	
<b>Trigger Methods</b>	Determined by external system.	
<b>Average Payload Size</b>	Entire entity – Thousands of records. Entity delta – Less than 100 records.	
<b>APIM Name</b>	EquipmentCategories_Import	
<b>InEight Application</b>	<b>Starting Version</b>	18.1
	<b>Ending Version</b>	

### Fields

Depth	Name	Type	Precision <sup>1</sup>	Parent	Req.
1	EquipmentCategoryId	String	200		Yes
1	Description	String	255		Yes
1	IsActive	Boolean	NA		No
1	Language	NA	NA		No
1	SourceSystemId <sup>2</sup>	String	200		No
1	SourceSystemName	String	50		No

1 - For numeric data types, precision is given as total digits allowed in the field and the number of those digits that exist to the right of the decimal. For example, 16,5 represents a total of 16-digits allowed in the field with 5 of those digits existing as decimal places and 11 digits on the left of the decimal. The decimal is not counted as a digit.

2 - Natural Key field.

### Field Descriptions

Name	Description	Example
EquipmentCategoryId	Unique identifier that is publicly recognizable. This field is displayed in normal use of InEight applications. The value sent in this field may match SourceSystemId if there is no need to use a public vs private unique identifier.	BD
Description	User friendly description of the record that will be shown in normal use of InEight applications to assist users when performing searches or selections. This field supports a large number of text characters, but it is recommended to keep the description as short as possible while retaining an easily recognized meaning.	Bulldozers

Name	Description	Example
IsActive	Determines if the record is active and available to the system. If a value is not provided, the value true is used. Sending a value of false causes a soft delete of the record in InEight.	true
Language	<i>Currently not supported/Reserved for future use.</i>	
SourceSystemId	Identifier created by the system of record and used in all system communications as the primary method of specifying a unique record. This field does not display in normal use of InEight applications and may contain internal identifiers such as a GUID that is not understandable by typical system users.	BD
SourceSystemName	Unique name assigned to the system of record by the InEight cloud platform that matches the external system using the integration.	MSD365

## Error Messages

The following error messages are generated by InEight for this integration. Errors in the table below are distinguished by the process that checks for the error.

- API Validation errors are basic record validations that will be returned to the API request message and cause the entire payload to fail.
- Entity Logic errors are performed internally within InEight and look for specific business rule or data integrity issues record-by-record. Failures with Entity Logic validations only cause the individual record to cease processing and are written to internal InEight logging.

API / Entity Logic	Condition	Code	Message
API Validation	Valid Payload	200	
API Validation	Required Fields are not Provided. [Field Name] options are: <ul style="list-style-type: none"> <li>• EquipmentCategoryId</li> <li>• Description</li> </ul>	400	The request is invalid. The [Field Name] Field is required.
API Validation	Provided Data exceeds string length. [Field Name] options are: <ul style="list-style-type: none"> <li>• EquipmentCategoryId</li> <li>• Description</li> <li>• SourceSystemId</li> <li>• SourceSystemName</li> </ul>	400	The request is invalid. The field [Field Name] must be a string with a maximum length of [String Length].
Entity Logic Validation	Logged in User associated with the Vendor	200	Cannot (Add or Update or Delete) equipmentCategory if vendor assigned.
Entity Logic Validation	Payload has more than one record with same SourceSystemId/EquipmentCategoryDisplay.	200	Duplicate DisplayId/SourceSystemId found. Aborting the process.

API / Entity Logic	Condition	Code	Message
Entity Logic Validation	Payload has conflict with uniqueness on SourceSystemId or DisplayId with existing data.	200	Duplicate found in SourceSystemId or DisplayId for '{Display}'.
Entity Logic Validation	Payload has inactive EquipmentCategory.	200	Ignoring inactive equipmentCategory having DisplayId '{ EquipmentCategoryDisplay}' for adding.
Entity Logic Validation	Valid Payload.	200	Imported {resultsCount} of {itemsCount} Equipment category entities: Adds({addsCount}) Updates({updatesCount}) Deletes({deletesCount}) Errors(0) Skipped({itemsCount - resultsCount})

## Sample JSON

```
[
  {
    "EquipmentCategoryId": "BD",
    "Description": "Bulldozers",
    "IsActive": true,
    "SourceSystemId": "BD",
    "SourceSystemName": "MSD365"
  },
  {
    "EquipmentCategoryId": "FV",
    "Description": "Fleet Vehicles",
    "IsActive": true,
    "SourceSystemId": "FV",
    "SourceSystemName": "MSD365"
  },
  {
    "EquipmentCategoryId": "CR",
    "Description": "Cranes",
    "IsActive": true,
    "SourceSystemId": "CR",
    "SourceSystemName": "MSD365"
  },
  {
    "EquipmentCategoryId": "DT",
    "Description": "Dump Trucks",
    "IsActive": true,
    "SourceSystemId": "DT",
    "SourceSystemName": "MSD365"
  }
]
```

## Verification

Integrated equipment records, including categories, types, and individual equipment, are found in the InEight product platform in **Library > Operational resources**.

The screenshot displays the 'Operational resources' section of the InEight Library. It features a navigation pane on the left with a tree view of equipment categories under 'EQUIPMENT'. The main area shows a table of equipment records with columns for Equipment ID, Description, Ownership, Unit cost, UoM, DoT regulated, and Last inspect... The table lists several equipment items, including trailers and utility vehicles.

Category	Model/type	Equipment ID	Description	Ownership	Unit cost	UoM	DoT regulated	Last inspect...
04 - TRAILERS	04-01 - Trailer Jeep	135341	UNKNOWN-Do...	Owned	\$0.00000	Hour	Yes	
	04-02 - Trl Utility Enclosed	135342	UNKNOWN-14...	Owned	\$0.00000	Hour	Yes	
	04-04 - Trl Utility Open	135343	K-LINE-SAKB	Owned	\$0.00000	Hour	Yes	
	04-05 - Trl Float Extendable	135344	CMI-HD40R	Owned	\$0.00000	Hour	Yes	
	04-06 - Trailer Highboy	135345	PEERLESS-SL...	Owned	\$0.00000	Hour	No	
	04-07 - Trl Highboy, Rail	172837	TK80J-252 TR...	Owned	\$0.00000	Hour	No	

## Equipment Types

<b>Direction</b>	To InEight	
<b>Frequency</b>	Determined by external system.	
<b>Trigger Methods</b>	Determined by external system.	
<b>Average Payload Size</b>	Entire entity – Thousands of records. Entity delta – Less than 100 records.	
<b>APIM Name</b>	EquipmentTypes_Import	
<b>InEight Application</b>	<b>Starting Version</b>	18.1
	<b>Ending Version</b>	

## Fields

Depth	Name	Type	Precision <sup>1</sup>	Parent	Req.
1	EquipmentTypeId	String	250		Yes
1	Description	String	255		Yes
1	IsActive	Boolean	NA		No
1	EquipmentCategoryId	String	200		Yes
1	Language	NA	NA		No
1	SourceSystemId <sup>2</sup>	String	250		No
1	SourceSystemName	String	50		No
1	VendorCode	String	250		No
1	CurrencyCode	String	50		Yes
1	UoMName	String	50		Yes
1	UnitCost	Number	16,5		No

*1 - For numeric data types, precision is given as total digits allowed in the field and the number of those digits that exist to the right of the decimal. For example, 16,5 represents a total of 16-digits allowed in the field with 5 of those digits existing as decimal places and 11 digits on the left of the decimal. The decimal is not counted as a digit.*

*2 - Natural Key field.*

## Field Descriptions

Name	Description	Example
EquipmentTypeId	Unique identifier that is publicly recognizable. This field is displayed in normal use of InEight applications. The value sent in this field may match SourceSystemId, if there is no need to use a public vs private unique identifier.	KD150
Description	Informal description of the record that will be shown in normal use of InEight applications to assist users when performing searches or selections. This field supports a large number of text characters, but it is recommended to keep the description as short as possible while retaining an easily recognized meaning.	Komatsu Dozers 0-150
IsActive	Determines if the record is active and available to the system. If a value is not provided, the value <i>true</i> is used. Sending a value of <i>false</i> causes a soft delete of the record in InEight.	true
EquipmentCategoryId	The Equipment Category to which this Equipment Type will be assigned. The value provided in this field must match an existing Equipment Category Id record in InEight.	BD
Language	<i>Not currently supported / Reserved for future use.</i>	
SourceSystemId	Identifier created by the system of record and used in all system communications as the primary method of specifying a unique record. This field does not display in normal use of InEight applications and may contain internal identifiers such as a GUID that is not understandable by typical system users.	KD150
SourceSystemName	Unique name assigned to the system of record by the InEight cloud platform that matches the external system using the integration.	MSD365
VendorCode	Providing a value in this field will limit who in InEight can select this Equipment Type to only users that are assigned to the same VendorCode. This allows vendors who are given access to the primary contractors project the ability to perform their own work planning.	Bob's Grading
CurrencyCode	Default currency for equipment rates. The value provided here must match a valid CurrencyCode in InEight master data.	USD
UoMName	Identifies the UoM associated with the equipment.	Hour
UnitCost	Cost associated with operating the equipment type. The value entered here corresponds with the Unit of Measure (UoMName).	525.25

## Error Messages

The following error messages are generated by InEight for this integration. Errors in the table below are distinguished by the process that checks for the error.

- API Validation errors are basic record validations that will be returned to the API request message and cause the entire payload to fail.
- Entity Logic errors are performed internally within InEight and look for specific business rule or data integrity issues record-by-record. Failures with Entity Logic validations only cause the individual record to cease processing and are written to internal InEight logging.

API / Entity Logic	Condition	Code	Message
API Validation	Valid Payload	200	
API Validation	Required Fields are not Provided. [Field Name] options are: <ul style="list-style-type: none"> <li>• EquipmentTypeId</li> <li>• Description</li> <li>• EquipmentCategoryId</li> <li>• CurrencyCode</li> <li>• UoMName</li> </ul>	400	The request is invalid. The [Field Name] Field is required.
API Validation	Payload exceeds String Length Size. [Field Name] options are: <ul style="list-style-type: none"> <li>• EquipmentTypeId</li> <li>• Description</li> <li>• EquipmentCategoryId</li> <li>• SourceSystemId</li> <li>• SourceSystemName</li> <li>• VendorCode</li> <li>• CurrencyCode</li> <li>• UoMName</li> </ul>	400	The request is invalid. The field [Field Name] must be a string with a maximum length of [String Length]. Message: The request is invalid.
Entity Logic Validation	Payload CurrencyCode is invalid.	200	Invalid CurrencyCode {CurrencyCode} for EquipmentType {EquipmentTypeDisplay}.
Entity Logic Validation	Payload has conflict with uniqueness on SourceSystemId or DisplayId with existing data	200	Duplicate found in SourceSystemId or DisplayId for '{Display}'.
Entity Logic Validation	Payload has more than one record with same SourceSystemId	200	Duplicate SourceSystemId found. Aborting the process.
Entity Logic Validation	Payload has inactive records while inserting	200	Ignoring inactive Record having DisplayId '{Display}' for adding.
Entity Logic Validation	Payload EquipmentTypeDisplay is associated with other projects	200	Ignoring EquipmentType having EquipmentTypeDisplay '{EquipmentTypeDisplay}' as delete is not allowed since it is associated with projects.



API / Entity Logic	Condition	Code	Message
Entity Logic Validation	Payload EquipmentTypeDisplay is associated with other Equipment	200	Ignoring EquipmentType having EquipmentTypeDisplay '{EquipmentTypeDisplay}' as delete is not allowed since it is associated with equipments.
Entity Logic Validation	Payload EquipmentType's vendorId is associated with Equipment in the Existing System	200	Ignoring equipmenttype '{EquipmentTypeDisplay}' Cannot change vendor if equipmenttype has equipment.
Entity Logic Validation	Payload EquipmentType's vendorId is associated with Equipment in the Existing System	200	Ignoring equipmenttype '{EquipmentTypeDisplay}' Cannot change vendor if equipmenttype is assigned to any projects.
Entity Logic Validation	Payload EquipmentType's Currency is associated with Equipment in the Existing System	200	Ignoring equipmenttype '{EquipmentTypeDisplay}' Cannot change currency if equipmenttype is assigned to any projects.
Entity Logic Validation	User has no permission to perform Add/Delete/Edit Equipment	200	Attempted to perform an unauthorized operation. User does not have permission to add/edit owned/rented equipment.
Entity Logic Validation	Payload VendorId is associated to user	200	Cannot Add/update/delete equipmenttype if vendor is assigned to user.
Entity Logic Validation	Valid Payload	200	Imported {resultsCount} of {itemsCount} EquipmentType entities: Adds({addsCount}) Updates({updatesCount}) Deletes({deletesCount}) Errors(0) Skipped({itemsCount - resultsCount}).

## Sample JSON

```
[
  {
    "EquipmentTypeId": "KD150",
    "Description": "Komatsu Dozers 0-150",
    "IsActive": true,
    "EquipmentCategoryId": "BD",
    "SourceSystemId": "KD150",
    "SourceSystemName": "MSD365",
    "VendorCode": "",
    "CurrencyCode": "USD",
    "UoMName": "Hour",
    "UnitCost": "525.25"
  },
  {
    "EquipmentTypeId": "KD260",
    "Description": "Komatsu Dozers 151-260",
    "IsActive": true,
    "EquipmentCategoryId": "BD",
    "SourceSystemId": "KD260",
    "SourceSystemName": "MSD365",
    "VendorCode": "Bob's Grading",
    "CurrencyCode": "USD",
    "UoMName": "Hour",
  }
]
```

```

"UnitCost": "525.25"
}
{
"EquipmentTypeId": "KD500",
"Description": "Komatsu Dozers 261-500",
"IsActive": true,
"EquipmentCategoryId": "BD",
"SourceSystemId": "KD500",
"SourceSystemName": "MSD365",
"VendorCode": "",
"CurrencyCode": "USD"
"UoMName": "Hour",
"UnitCost": "525.25"
}
{
"EquipmentTypeId": "KD500+",
"Description": "Komatsu Dozers 500+",
"IsActive": true,
"EquipmentCategoryId": "BD",
"SourceSystemId": "KD500+",
"SourceSystemName": "MSD365",
"VendorCode": "",
"CurrencyCode": "USD"
"UoMName": "Hour",
"UnitCost": "525.25"
}
]

```

## Verification

Integrated equipment records, including categories, types, and individual equipment, are found in the InEight product platform in **Library > Operational resources**.

The screenshot shows the 'Operational resources' page in the InEight Library. The left sidebar contains a tree view of equipment categories, with '04 - TRAILERS' selected. The main area displays a table of equipment records with columns for Equipment ID, Description, Ownership, Unit cost, UoM, DoT regulated, and Last inspect... The table contains several rows of equipment data, including items like '04-01 - Trailer Jeep', '04-02 - Trl Utility Enclosed', and '04-04 - Trl Utility Open'.

Equipment ID	Description	Ownership	Unit cost	UoM	DoT regulated	Last inspect...
135341	UNKNOWN-Do...	Owned	\$0.00000	Hour	Yes	
135342	UNKNOWN-14...	Owned	\$0.00000	Hour	Yes	
135343	K-LINE-SAKB	Owned	\$0.00000	Hour	Yes	
135344	CMI-HD40R	Owned	\$0.00000	Hour	Yes	
135345	PEERLESS-SL...	Owned	\$0.00000	Hour	No	
172837	TK80J-252 TR...	Owned	\$0.00000	Hour	No	

## Equipment (Post)

<b>Direction</b>	To InEight	
<b>Frequency</b>	Determined by external system.	
<b>Trigger Methods</b>	Determined by external system. Triggers can include sending delta records as details of equipment change, equipment is added, or equipment is removed from inventory.	
<b>Average Payload Size</b>	Entire entity – Thousands of records. Entity delta – Less than 100 records.	
<b>APIM Name</b>	Equipments_Import	
<b>InEight Application</b>	<b>Starting Version</b>	18.1
	<b>Ending Version</b>	

### Fields

Depth	Name	Type	Precision <sup>1</sup>	Parent	Req.
1	EquipmentSystemStatus	String	50		Yes
1	EquipmentNumber <sup>2</sup>	String	100		Yes
1	OwnershipType	String	100		No
1	EquipmentType	String	250		Yes
1	VendorCode	String	250		No
1	SerialNumber	String	50		No
1	Manufacturer	String	200		No
1	Dot	Boolean	NA		No
1	EquipmentDescription	String	255		No
1	IsActive	Boolean	NA		No
1	SourceSystemId	String	100		No
1	SourceSystemName	String	50		No
1	CurrencyCode	String	50		Yes
1	UoMName	String	50		Yes
1	CostCenterSourceSystemId	String	50		No
1	Location	String	250		No
1	UnitCost	Number	16,5		No
1	AquisitionValue	Number	16,5		No

Depth	Name	Type	Precision <sup>1</sup>	Parent	Req.
1	ConstructionYear	Integer	9999		No
1	IsAvailableDailyPlan	Boolean	NA		No

1 - For numeric data types, precision is given as total digits allowed in the field and the number of those digits that exist to the right of the decimal. For example, 16,5 represents a total of 16-digits allowed in the field with 5 of those digits existing as decimal places and 11 digits on the left of the decimal. The decimal is not counted as a digit.

2 - Natural Key field.

## Field Descriptions

Name	Description	Example
EquipmentSystemStatus	Availability or current state of the equipment. Allowed values: <ul style="list-style-type: none"> <li>• Available</li> <li>• Unavailable</li> </ul> Defaults to Available if no value is provided. <b>NOTE:</b> The request, transfer, and assignment of the equipment and related processes are done outside of the InEight cloud platform. The value is for reference only and does not affect whether or not the equipment can be assigned to a project.	Available
EquipmentNumber <sup>2</sup>	Equipment item system of record identifier. Must be unique for each piece of equipment.	016800
OwnershipType	Indicates whether the equipment item is owned or rented by the customer. Allowed values: <ul style="list-style-type: none"> <li>• Owned</li> <li>• Rented</li> </ul>	Owned
EquipmentType	Unique identifier that shows in the InEight applications. Associates equipment item to an equipment type. Value must match that of an existing EquipmentTypeId.	13-02
VendorCode	Identifies a vendor that exists in the InEight system. Equipment with a VendorCode are managed by the associated vendor and their availability is limited to that vendor.	FLAG
SerialNumber	Physical serial number or vehicle identification number (VIN) of the equipment.	FRV111203
Manufacturer	Name of the equipment manufacturer.	FELL
Dot	Indicates if the equipment is Department of Transportation (DOT) regulated.	false
EquipmentDescription	User-defined field that describes or gives details about the category or model/type of specific equipment.	OTR-HYD-FLATBED

Name	Description	Example
IsActive	<i>Not recommended for use.</i> Defaults to true if no value is provided. Sending a value of false in this field will cause the record to be soft deleted from the InEight system and unrecoverable without assistance from InEight Professional Services.	true
SourceSystemId	Identification of the equipment used in the external system. In most cases, this matches the EquipmentNumber field. This field is used by InEight to match equipment records to other entities (e.g. Project Equipment) where an Equipment is cross-referenced.	860010
SourceSystemName	Unique name assigned to the system of record by the InEight cloud platform that matches the external system using the integration.	CLNTERPSOU
CurrencyCode	Default currency for equipment rates. The value provided here must match a valid CurrencyCode in InEight master data.	USD
UoMName	Identifies the UoM associated with the equipment.	Hour
CostCenterSourceSystemId	Cost center that the equipment belongs to.	AS-Costcenter
Location	Free-text field that is used to show a location of where the equipment can be found.	Site303
UnitCost	Cost associated with operating the equipment. The value entered corresponds with the unit of measure (UoMName).	2500.50
AquisitionValue	Cash value of the equipment.	275000.00
ConstructionYear	Year that the equipment was manufactured.	1975
IsAvailableDailyPlan	Determines if the record is allowed to be used for Daily Planning in the Plan and Progress applications.	true

## Error Messages

The following error messages are generated by InEight for this integration. Errors in the table below are distinguished by the process that checks for the error.

- API Validation errors are basic record validations that will be returned to the API request message and cause the entire payload to fail.
- Entity Logic errors are performed internally within InEight and look for specific business rule or data integrity issues record-by-record. Failures with Entity Logic validations only cause the individual record to cease processing and are written to internal InEight logging.

API / Entity Logic	Condition	Code	Message
API Validation	Valid Payload	200	

API / Entity Logic	Condition	Code	Message
API Validation	Required Fields are not Provided. [Field Name] options are: <ul style="list-style-type: none"> <li>• EquipmentSystemStatus</li> <li>• EquipmentNumber</li> <li>• OwnershipType</li> <li>• EquipmentType</li> <li>• EquipmentDescription</li> <li>• CurrencyCode</li> <li>• UoMName</li> </ul>	400	The request is invalid. The [Field Name] Field is required.
API Validation	ProvidedData Exceeds String Length Size. [Field Name] options are: <ul style="list-style-type: none"> <li>• EquipmentSystemStatus</li> <li>• EquipmentNumber</li> <li>• OwnershipType</li> <li>• EquipmentType</li> <li>• VendorCode</li> <li>• SerialNumber</li> <li>• Manufacturer</li> <li>• EquipmentDescription</li> <li>• SourceSystemId</li> <li>• SourceSystemName</li> <li>• CurrencyCode</li> <li>• UoMName</li> <li>• CostCenterSourceSystemId</li> <li>• Location</li> <li>• UnitCost</li> </ul>	400	The request is invalid. The field [Field Name] must be a string with a maximum length of [String Length].
Entity Logic Validation	Payload has more than one record with same SourceSystemId/DisplayId	200	Duplicate SourceSystemId found. Aborting the process.
Entity Logic Validation	Payload is Empty	200	No items given for import.
Entity Logic Validation	Payload has Invalid OwnerType	200	Invalid OwnershipType {Name} for Equipment.
Entity Logic Validation	Payload has conflict with uniqueness on SourceSystemId with existing data.	200	Duplicate SourceSystemId found. Aborting the process.
Entity Logic Validation	Payload has conflict with uniqueness on DisplayId with existing data.	200	Duplicate DisplayId found. Aborting the process.
Entity Logic Validation	Payload has Invalid EquipmentType	200	Ignoring Equipment {SourceSystemId} due to Invalid EquipmentType {EquipmentType}.
Entity Logic Validation	Payload has invalid UomName	200	Ignoring Equipment {SourceSystemId} due to Invalid UomName {UnitOfMeasure}.
Entity Logic Validation	Payload has Invalid Vendorcode	200	Ignoring Equipment {SourceSystemId} due to Invalid VendorCode {Vendor}.
Entity Logic Validation	Payload has Invalid VendorId	200	Ignoring Equipment {SourceSystemId} due to Invalid {vendor Id }.
Entity Logic Validation	Payload has invalid CurrencyCode	200	Ignoring Equipment {SourceSystemId} due to Invalid CurrencyCode {CurrencyCode}.

API / Entity Logic	Condition	Code	Message
Entity Logic Validation	Payload has invalid CostCenterId	200	Ignoring Equipment {SourceSystemId} due to Invalid CostCenterId {CostCenter}.
Entity Logic Validation	Payload has invalid EquipmentStatusId	200	Ignoring Equipment {SourceSystemId} due to Invalid EquipmentStatusId {EquipmentStatus}.
Entity Logic Validation	Payload Acquisitionvalue is Negative	200	Ignoring Equipment {SourceSystemId} due to Acquisitionvalue should not accept negative value.
Entity Logic Validation	Payload Unitcost is Negative	200	Ignoring Equipment {SourceSystemId} due to Unitcost should not accept negative value.
Entity Logic Validation	Payload Construction year is Invalid	200	Ignoring Equipment {SourceSystemId} due to Invalid construction year.
Entity Logic Validation	Payload Location Length is more than 250	200	Ignoring Equipment {SourceSystemId} due to The field Location must be a string with a maximum length of 250.
Entity Logic Validation	Payload image size bytes greater than 256000	200	Ignoring Equipment {SourceSystemId} due to Image size too large.
Entity Logic Validation	Payload has conflict with uniqueness on SourceSystemId or DisplayId with existing data	200	Duplicate found in SourceSystemId or DisplayId for '{Display}'.
Entity Logic Validation	Payload has inactive records while inserting	200	Ignoring inactive Record having DisplayId '{Display}' for adding.
Entity Logic Validation	Payload has dependencies	200	Ignoring Equipment having EquipmentDisplay '{EquipmentDisplay}' as delete is not allowed.
Entity Logic Validation	Valid Payload	200	Imported {resultsCount} of {itemsCount} Equipment entities: Adds({addsCount}) Updates({updatesCount}) Deletes({deletesCount}) Errors(0) Skipped({itemsCount - resultsCount}).

## Sample JSON

```
{
  "EquipmentSystemStatus": "Available",
  "EquipmentNumber": "016800",
  "OwnershipType": "Owned",
  "EquipmentType": "13-02",
  "VendorCode": "FLAG",
  "SerialNumber": "FRV111203",
  "Manufacturer": "FELL",
  "Dot": false,
  "EquipmentDescription": "OTR-HYD-FLATBED",
  "IsActive": true,
  "SourceSystemId": "860010",
  "SourceSystemName": "CLNTERPSOU",
  "CurrencyCode": "USD",
  "UoMName": "Hour"
  "CostCenterSourceSystemId": "AS-Costcenter",
}
```



```

"Location": "Site303",
"UnitCost": 2500.50,
"AcquisitionValue": 4525.00
"ConstructionYear": 1996
"IsAvailableDailyPlan": true
}
    
```

## Verification

Integrated equipment records, including Categories, Types, and individual equipment, are located in Library > **Operational resources** in the InEight platform.

The screenshot shows the 'Library' interface with 'Operational resources' selected. The left sidebar contains a tree view of categories under 'EQUIPMENT', including '04 - TRAILERS', '05 - CRAWLER TRACTORS', '06 - WHEEL TRACTORS', '08 - MOTOR GRADERS', '09 - SOIL AUGERS & TEST DRILLS', '10 - EXCAVATORS', '11 - ROLLERS', '12 - SCRAPERS', '123 - 123', '13 - DOZERS BLADES & ROCK RA...', '14 - RIPPERS, PLOWS & DISCS', and '15 - CRANES'. The main area displays a table of equipment records with columns: Equipment ID, Description, Ownership, Unit cost, UoM, DoT regulated, and Last inspect... The table contains several rows of data, including equipment with IDs 135341 through 172837.

Equipment ID	Description	Ownership	Unit cost	UoM	DoT regulated	Last inspect...
135341	UNKNOWN-Do...	Owned	\$0.00000	Hour	Yes	
135342	UNKNOWN-14...	Owned	\$0.00000	Hour	Yes	
135343	K-LINE-SAKB	Owned	\$0.00000	Hour	Yes	
135344	CMI-HD40R	Owned	\$0.00000	Hour	Yes	
135345	PEERLESS-SL...	Owned	\$0.00000	Hour	No	
172837	TK80J-252 TR...	Owned	\$0.00000	Hour	No	

## Equipment (Get)

This API uses the standard InEight asynchronous GET pattern (refer to "*Getting Started with InEight Integrations – Developer Guide*" for details) and returns 500 records for each request. Use the OData query parameter \$skip to continue to make subsequent calls until the returned record set falls below a count of 500.

<b>Direction</b>		From InEight
<b>Frequency</b>		Determined by external system.
<b>Trigger Methods</b>		Determined by external system.
<b>Average Payload Size</b>		All Equipment records
<b>APIM Name</b>		Equipment_Get
<b>InEight Application</b>	<b>Starting Version</b>	19.1
	<b>Ending Version</b>	

### Supported Filters

This API supports standard OData query parameters of \$expand, \$filter, \$select, \$orderby, \$top, \$skip, and \$count.

### Fields

See [Fields](#) in the Equipment (Post) for details.

### Field Descriptions

See [Field Descriptions](#) in the Equipment (Post) for details.

## Sample

```
{ "@odata.context": "https://apitest.ineight.com/integrations/$metadata#Equipments", "value": [{"EquipmentSystemStatus": "Available", "EquipmentNumber": "171058", "OwnershipType": "Owned", "EquipmentType": "05-10", "VendorCode": null, "SerialNumber": "1T00764XVED272282", "Manufacturer": "JOHN DEERE", "Dot": true, "EquipmentDescription": "Equipment_Document_Patch", "IsActive": true, "SourceSystemId": "171058", "SourceSystemName": null, "Model": null, "CurrencyCode": "USDollar", "CostCenterSourceSystemId": null, "Location": null, "UnitCost": 11.00000, "UoMName": "Hour", "IsAvailableDailyPlan": false}, {"EquipmentSystemStatus": "Available", "EquipmentNumber": "152396", "OwnershipType": "Owned", "EquipmentType": "02-10", "VendorCode": null, "SerialNumber": "1FTBF2A69DEB37906", "Manufacturer": "FORD", "Dot": false, "EquipmentDescription": "FORD-F-250", "IsActive": true, "SourceSystemId": "152396", "SourceSystemName": null, "Model": null, "CurrencyCode": "USDollar", "CostCenterSourceSystemId": null, "Location": null, "UnitCost": 0.00000, "UoMName": "Hour", "IsAvailableDailyPlan": true}, {"EquipmentSystemStatus": "Available", "EquipmentNumber": "161080", "OwnershipType": "Owned", "EquipmentType": "02-12", "VendorCode": null, "SerialNumber": "1FTBF2B61FEB17375", "Manufacturer": "FORD", "Dot": false, "EquipmentDescription": "FORD-F-250 (White)", "IsActive": true, "SourceSystemId": "161080", "SourceSystemName": null, "Model": null, "CurrencyCode": "UAE Dirham", "CostCenterSourceSystemId": null, "Location": null, "UnitCost": 0.00000, "UoMName": "Hour", "IsAvailableDailyPlan": true}, {"EquipmentSystemStatus": "Available", "EquipmentNumber": "171767", "OwnershipType": "Owned", "EquipmentType": "15-07", "VendorCode": null, "SerialNumber": "549575", "Manufacturer": "TADANO", "Dot": false, "EquipmentDescription": "TADANO-GR-750XL", "IsActive": true, "SourceSystemId": "171767", "SourceSystemName": null, "Model": null, "CurrencyCode": "USDollar", "CostCenterSourceSystemId": null, "Location": null, "UnitCost": 0.00000, "UoMName": "Hour", "IsAvailableDailyPlan": true}]}
```

## Verification

See [Verification](#) in the Equipment (Post) for details.