What You Should Know About IMDS
Purpose

IMDS follows very strict security and logic rules. The iterative approach is not unique to IMDS. It can also be found in Product Data Management Systems, CAD and Drawing systems, and coding structure that software developers have used for decades.

What is unique is that the typical IMDS user does not have any of the above in their experience and views IMDS like they would their automobile – they don’t understand exactly how it works, they just know that it goes. And when it breaks down, they want it fixed immediately. When they understand that they have to change the oil and fluids occasionally, it will break down less and get further. This document will attempt to give a little insight into how IMDS works in an effort to improve your IMDS experience.

Users are frequently asked to make changes to a datasheet and do not understand why the system doesn’t work as they think it should. Additionally, as more and more suppliers are sold off or merged, the issues of combining data or separating data are causing issues with how best to handle the data. Data transfer is a complicated process and, in the end, must follow IMDS rules.
How IMDS Works

IMDS is a database with linked tables. The Key Fields (linking pointers) into the tables are numeric. A Key Field must be unique. IMDS uses system generated values in the Key Fields and not user assigned or changeable part numbers or material numbers.

Each IMDS company and organization unit has a unique identifier – the IMDS company ID. This number is also system generated and is assigned in the order of creation. A company or organization unit with ID > 60,000 is much newer than a company or organization unit < 1000. When a company registers and IMDS assigns a company ID, this is the “roof” company ID. The “roof” company may have many Organization Units (Org Units), each with their own ID also assigned by IMDS, but only one “roof” company ID.

While we have tried to limit duplicate registration, the computer is relatively unsophisticated. For example, a human can make the assumption that A&B Inc. is the same as company A & B Inc. A computer reads them as unique and will allow registration. Anything created or sent/proposed to A&B Inc. will not be visible to users in A & B Inc. The name of the company can be changed but only by the IMDS Service Center agents. You only have visibility to those MDS/Modules created by users in your IMDS company or those MDSs that have been published or sent/proposed to your IMDS company number. All users in the same “roof” company have visibility to any datasheet created by any user in their “roof” company. However, until acceptance, only users assigned to an Org Unit can see datasheets sent to that Org Unit.
The Inbox from a profile with all Org Units attached: (16 results)

Each MDS/Module has one unique identifier – the node ID. However, for usability and traceability, each MDS/Module has a single IMDS ID and a version number. If there is only one version of an MDS/Module that has ever been created, then the node ID and the IMDS ID is the
same. Each time a copy/new version of an MDS/Module is made, a new node ID (and version number) is generated although the IMDS ID remains the same. The node ID is the unique location in the database where the information about a particular MDS/Module ID and version resides. This value is currently not searchable using the browser interface, but is important for people with offline systems, people who wish to perform a data separation, and people who want to use the .csv option of the imds-a2 tool. The node ID is displayed at the top of the frame in the browser view of the MDS/Module.

User IDs are alphanumeric and are unique. These are usually system generated using a schema relating the company name, the first name and last name of the user originally assigned to the ID and a number. IDs created by helpdesk agents usually follow a similar schema. Because these are key fields, once assigned, a User ID cannot be changed.

**Node ID vs. IMDS ID/Version**

When you create an MDS or Module, you are assigned an IMDS ID and version .01. A decimal version indicates that the MDS/Module is not yet “released” – meaning changes are still possible. Any MDS/Module with a whole version number (e.g. 1, 2, 3, …) is “released” and cannot be changed. Each time you issue a copy/new version on a datasheet your company owns, you keep the same IMDS ID, but are issued a new version. When a datasheet is released (either by internal release, publish, propose or customer accepting a sent MDS), the IMDS ID stays the same, but the datasheet gets a whole number version. If it was internally released, you may add a recipient but that is the only exception.

For those people with offline systems, the issue of exactly which datasheet we are talking about can get confusing. For that reason, each datasheet has an additional number associated with it – the Node ID. A Node ID is the exact place in the database where the datasheet resides. It has no version associated with it. If there is only one version of a datasheet that has ever been created, the IMDS ID and Node ID will be the same. Although the Node ID is displayed when viewing a datasheet, you cannot search on the Node ID at this time.
Who “Owns” the Data

You can only change/delete a datasheet if it was created by someone in your “roof” company.
You cannot delete an old version of an MDS if the MDS Supplier is not your “roof” company.

Deleted MDSs

Technically, nothing ever gets removed from IMDS with no trace of it found. Part of the reason is that the data may have been attached or referenced already. When you “delete” an MDS, a flag is placed on it so it can no longer be attached, cannot be found in the search screen and may have status “cbs” if it has been sent/proposed to a customer – but it remains in the system. While the customer cannot attach a “deleted” MDS to a new MDS, they can see the contents from the Received link and see the structure on MDSs that have referenced it.

Since the system does ask at least twice “are you sure you want to delete?” do not expect the helpdesk to assist you in cases where someone has deleted the datasheet accidentally. One supplier contacted the helpdesk with a problem - as soon as materials were added by one user, they were being deleted by another user. Since it was a large company, the wanted help identifying the user who was deleting. The helpdesk could only offer a list of users who had logged in during the period in question.

Enforcing rules within your company is outside the scope of the helpdesk and IMDS as is having a developer go into the database and “undelete” a datasheet.

Removing Recipients

Similar to deleting an MDS, once an MDS has been sent/proposed to a customer, a permanent link has been established between the supplier and the recipient on the IMDS ID and version. You can “delete” a recipient provided the MDS has not been accepted, but it will leave a permanent link and status “cbs” (cancelled by sender). Once the MDS has been accepted by a recipient, you can no longer delete the recipient or delete the MDS.
Referencing – It’s an Illusion

Once of the biggest issues users have with IMDS is that they do not understand that the MDSs of subcomponents or materials they are viewing are links to that data and not the data itself – it’s all an illusion, better known as “referencing”.

Any time the [link] (and technically the [image]) is used, you are creating a link to data somewhere else in the database – you are NOT creating a copy, the system is NOT pasting an image of the data. You are linking to a specific ID and version of the MDS. Through the application coding, you are seeing what is in that location but you cannot change it from this view. You can only change the information of the IMDS ID and version you are viewing appears at the top of the tree in the Ingredients view AND the MDS is in edit mode (not a whole number version).

In the following example, we have two levels of linking:

Although you can see the complete structure (without the basic substances), the Clip Assembly is linked to separate MDSs 130521_ih_test_accept and Test_Material_Abgeschlossen_902079435 (it should go without saying that these names do not follow Recommendation 001 so do not follow this example in your own MDSs/Modules). Component_904823391 has been created in the tree and not referenced. The 130521_ih_test_accept is then linked to the + ZA90/40 (Zink-Aluminum schmelztauchveredelt) and the component Test_Material_Abgeschlossen_902079435 is linked to the (Ba/Sr)O-
nFe2O3 (Magnetically hard material) material and 12 Ni 4. Component_904823391 does link to the material Test.

There are several reasons why you may want to create a component or semi-component in the tree (or “on the fly”) as opposed to attaching an MDS/Module:

- The component or semi-component is only used in one place
- Required for tree structure requirements (e.g. for paint on a component)

If you want to make changes (e.g. replace a material) on a component or semi-component that has been created in the tree it is much easier than if the component or semi-component has been released. You can make the changes from here without having to go to another place, copy/new version, make change, release, come back here, delete off old MDS/Module and add in new.

If you are familiar with ISO certified processes where there is only true and controlled copy of a document or process stored in a document library and other documents may list the URL of the document, you may think of the MDS that is being created as linking to other certified MDSs stored elsewhere. Instead of a URL, the link is an IMDS ID and version (or node ID).

In fact the “certified” example is a useful one. When you “release” an MDS, you are “certifying” that all the information is true and final. You cannot go back and make changes without changing the version number and releasing (or certifying). You cannot release (or certify) a top node while it links to uncertified (unreleased) MDSs/Modules.

Since you cannot edit a “released” MDS and to release a top node, all linked datasheets must be released, when you copy/new version of a datasheet, it does not change the datasheet that references it.

Are the Little Icons Really Important?

From time to time, users ask why the icons have different symbols attached.
To make MDS management easier, IMDS uses the unique symbols displayed in the table for material, semi-component and component icons. These icons appear in tree structures and in search results. These icons are modified to represent the source of the specific item:

- The house symbolizes **owned MDSs** created within the user’s company (component, semi-component, material).

- The globe symbolizes **published MDSs** available to all IMDS Users (component, semi-component, material).

- The envelope symbolizes **received MDSs** from a supplier company (component, semi-component, material).

Let’s take a look at an example MDS that was sent to my company (I will remove any link to the supplier). Notice how the icon for the top node has an icon with an envelope next to it while the other icons do not. Since my company was not the creator of the MDS, I can only find out information on the supplier and IMDS ID/version of the top node (accepted).
Rule – If the MDS has been “deleted” by the sender or your company was removed from the recipient list of the MDS, you will not be able to find it in a Search.

If I expand the tree structure to show all the basic substances, I can get the composition of the Component but I cannot see who created the material information.

**Why Does it Matter?**

This description of referencing should help you understand the answers to questions that are supplied by the IMDS Service Centers.

** Asked to Change Data**

Most users are frustrated when asked to change something on a material and cannot do so. They complain that “IMDS is not operating in a logical manner”. Actually, IMDS is operating perfectly logically within the rules given. The reason they cannot change the data is one or more of the following:

- They are trying to edit the data in the tree structure of the component.
- They are trying to change a released MDS (either the component or the material).
- Their company did not create the material.

**Material Changes**

Rejections based on something on the material are the most time consuming and complex to resolve because changes always have to be made by the creator of the material who could be several levels up the supply chain. Sometimes suppliers take the short cut and copy the information and make it their own – but then you lose traceability to the original data and cannot be informed when the manufacturer creates a new version of the datasheet.
Additionally, should there be any legal questions to the truthfulness of the data, there is no traceability back to the data supplier.

The following are typical changes that are asked on a material:

- Add Remark to Material
- Add Material Symbol
- Change Material Classification
- Change Material Description
- Add the Norm/Standard

**Resolve Issue:** To change ANYTHING that is on the Material –

1. **Go to the first component and look at the material in question**
   a. If the material has an icon with a house next to it copy/new version and correct.
   b. If the material has an icon with an envelope next to it contact the supplier and ask them to change it.

2. **Then you have to work your way up the tree on icons with either a house or an envelope next to them** –
   a. Copy/new version, delete off old version, add in new version
   b. Ask your supplier to copy/new version, delete off old version, add in new version.

This is a VERY TIME CONSUMING TASK. The OEMs will usually not ask for a change for one of the above reasons believing it will eventually get changed on the next release. It is usually the suppliers that will ask for these types of changes.
**Component Changes**

The following changes are frequently asked on components.

- Add Application Codes
- Answer Polymeric Parts Marking
- Add Recyclate Information

While Application codes “appear” to be on a material, THEY ARE ASSIGNED WHEN THE MATERIAL REQUIRING AN APPLICATION CODE IS ATTACHED TO A COMPONENT. DO NOT CONTACT THE SUPPLIER OF THE MATERIAL MDS AND ASK THEM TO SET THE APPLICATION CODE. THERE IS NO PLACE WHERE THEY CAN SET IT!!!! The same for Recyclate Information.

If you follow the logic on making changes to a material discussed above, the changes to a sub-component are made in a similar fashion.

Once again, most of these changes are on “legacy” data – data that met IMDS Release standards when first entered but changes in IMDS have made new requirements. The OEMs will usually not ask for resubmission of legacy data. It is other suppliers who ask for such changes. Depending on the depth of the tree structure, this also can be a very time consuming task.

**Example**

Going back to the example in a previous section: Let’s say you were asked to change the material classification to the material “Test”.
Let’s say that your company WAS the creator of this MDS and everything on the tree. The steps you would take:

1. Search out material sic [Test] from Main Menu > Search > All MDS/Modules or Materials, Origin Own, Version All

2. Copy/new version of

3. Change the Material Classification (and any other changes such as symbol, norms/standards, trade name, remark, etc.)

4. Go to Recipient Data

5. Internally Release sic [Test]

6. Search out component “Component_904823391” from Main Menu > Search > All MDS/Modules or Component, Origin All, Version All

7. Delete version 1 of sic [Test] from BOM

8. Search new version of sic [Test]

9. Apply new version of sic [Test]

10. Go to Recipient Data

11. Internally Release Component “Component_904823391”
12. Search out Component “Clip Assembly” from Main Menu > Search > All MDS Modules or Component, Origin Own, Version All

13. Copy/new version of “Clip Assembly” (assuming not already in edit mode)

14. Delete old version of Component “Component_904823391” from BOM

15. Search out new version of Component “Component_904823391”

16. Apply new version of Component “Component_904823391”

17. Go to Recipient Data

18. Check and send/propose to customer.

And this is a small tree structure – it is much more complicated if it is 100s of levels deep or you are dealing with MDSs that were not created by you but by a supplier – or a supplier’s supplier – or a supplier’s supplier’s supplier ....

This is why the OEMs will, for the most part, take legacy data and not require resubmission as IMDS rules change.

**Want to Move Nodes on Tree**

Since IMDS Release 4.1 it is possible to change the order of nodes in the ingredients tree within the same parent node while still in edit mode of the tree structure.

1) Existing nodes can be moved to a specified position

2) New nodes can be inserted at a specified position

This is accomplished through the use of a “Move” command after right-clicking that displays a window where the new position of the node can be specified. In this window, all nodes within the same parents are listed, and the user can decide to insert it anywhere between before the first and after the last node. After confirming the selection, the tree will be refreshed with the new location of the node.
All existing IMDS edit rules still apply. Therefore, a prerequisite for moving nodes is that the MDS is not released so the ingredients tree is still editable. Also, the node to be moved must be a direct descendent of the top node (it cannot be a sub-node of an MDS or module that is referenced in the tree structure). Nodes will only be moveable within the same parent.

**Example**

Taking a look at the following tree structure: This is not a released MDS (version .01) and I would have to check and make sure it is not in “handshake” mode (it isn’t but you have to go to the recipient page to make sure).

You can only move items in the tree if they are a direct descendent of the top node “Clip assembly”. In this case, only the following are a direct descendent of the top node (Once again, this MDS is for testing purposes and does not follow Recommendation 001 nor does it represent any real product):

- 130521_ih_test_accept

- Test_Material_Abgeschlossen_902079435 and

- Component_904823391

130521_ih_test_accept and Test_Material_Abgeschlossen_902079435 are direct descendants because Clip assembly references them as own MDSs (little house next to the icon)
Component_904823391 also is a direct descendant but does not exist outside the tree structure (no icon next to it, it was directly added to the tree structure and not referenced).

The following moves for Component_904823391 are possible within this tree structure:

- Component_904823391 can be moved to the top of the list
- Component_904823391 can be moved to the bottom of the list
- Component_904823391 can be moved above 130521_ih_test_accept (which in this case corresponds with moving it to the top of the list)
- Component_904823391 can be moved above Test_Material_Abgeschlossen_902079435

Should you want to change the order of the materials linked to Test_Material_Abgeschlossen_902079435 you would have to:

1. Search out Component Test_Material_Abgeschlossen_902079435 from Main Menu > Search > All MDS/Modules or Components, Origin Own, Version All
2. Copy/new version of Test_Material_Abgeschlossen_902079435 (this has been released)
3. Change the order of the materials

4. Go to Recipient Data

5. Internally Release Test_Material_Abgeschlossen_902079435

6. Search out component Clip Assembly from Main Menu > Search > All MDS/Modules or Component, Origin All, Version All

7. Delete old version of Test_Material_Abgeschlossen_902079435

8. Search new version of Test_Material_Abgeschlossen_902079435

9. Apply new version of Test_Material_Abgeschlossen_902079435

10. Proceed with whatever you want to do

Want to Replace Datasheet in Tree

Many people want to know why the delete button doesn’t always appear in the tree structure. The delete button appears where you can delete the node. If it doesn’t appear when you have the node highlighted, then deletion is not permitted.

In the previous example structure – let’s say you want to replace the material 12 Ni 4 on the Test_Material_Abgeschlossen_902079435 for some reason. You cannot replace from this view because the 12 Ni 4 material is linked to the Test_Material_Abgeschlossen_902079435. To replace the 12 Ni 4 material you would have to:

1. Search out Component Test_Material_Abgeschlossen_902079435 from Main Menu > Search > All MDS/Modules or Components, Origin Own, Version All

2. Copy/new version of Test_Material_Abgeschlossen_902079435 (if this has been released)

3. Delete old material 12 Ni 4
4. Search the new material 12 Ni 4

5. Apply the new material 12 Ni 4

6. Go to Recipient Data

7. Internally Release Test_Material_Abgeschlossen_902079435.

8. Search out component Clip assembly from Main Menu > Search > All MDS/Modules or Component, Origin All, Version All

9. Delete old version of Test_Material_Abgeschlossen_902079435

10. Search new version of Test_Material_Abgeschlossen_902079435

11. Apply new version of Test_Material_Abgeschlossen_902079435

12. Proceed with whatever you want to do

Want to Separate Data

While merging data from separate IMDS companies into an existing IMDS company (Company Merge) is not so problematic – HPE goes in and changes the pointers so that the Users, created datasheets, sent datasheets and received datasheets all point to the new company ID (and Org Unit), separating data (Company SplitOff) is very complex and may not always be possible.

An IMDS Company SplitOff can become problematic as plants or divisions are sold to other companies and the data needs to be transferred out of the old company. There are really only 2 ways to get data from one IMDS company to another in the case of a sale:

- Company SplitOff by HPE (may not be possible for all data)

- Send/Propose a Copy to New Company (may not be possible for all data)
In any case, it is recommended to cease immediately any new data entry in the old company – the problem only gets worse if data is continuing to be entered and it causes problems with the analysis.

1. Company Merge by HPE

This method requires some preparations by a Company Administrator in the existing company and a lot of effort by HPE. This is not a free service – starting price is 1,300 Euros. More information can be found under https://public.mdsystem.com/en/web/imds-public-pages/pricing32

1.1 Company Administrator – Create Org. Unit

HPE will only research the possibility of moving data from a complete Org. Unit. They will not do anything with a list of part numbers. If the data to be moved is not already within an existing Org. Unit, the Company Administrator has to create a new Org. Unit.

1.2. Company Administrator – Move Top Nodes to Org. Unit

The Company Administrator will need to use Administration > MDS Admin to move all the affected MDS to the Org. Unit. (For instructions, see on the IMDS information Pages the respective document on Company Administrator functions). Although searching by IMDS ID is recommended, you may decide to use Part Number for your searches. Keep in mind that the search screen will present your view of the world and not your customers and your company may have entered the data by an internal part number and not your customer’s part number.

1.3. Fill in Company Merge Planner

Contact either mds-solutions@hpe.com or your nearest IMDS Service Center and indicate you want to explore the possibility of data separation.

In the Company Merge Planner the Company Administrator documents his data transfer requirements. All source and target companies are listed here.
On the basis of the Company Merge Planner, HPE performs an analysis to see how many MDS can be transferred and can determine the Type of Company Merge and therefore the costs.

1.4. Contact HPE

HPE will provide you with a proposal for the Merge. Should you agree to it, you will have to issue a Purchase Order for the amount on the proposal.

2. Company SplitOff by HPE

This method requires some preparations by a Company Administrator in the existing company and a lot of effort by HPE. This is not a free service – starting price is 2,800 Euros. More information can be found under https://public.mdsystem.com/en/web/imds-public-pages/pricing3

2.1. Company Administrator – Create Org. Unit

HPE will only research the possibility of moving data from a complete Org. Unit. They will not do anything with a list of part numbers. If the data to be moved is not already within an existing Org. Unit, the Company Administrator has to create a new Org. Unit. 2.2. Company Administrator – Move Top Nodes to Org. Unit

The Company Administrator will need to use Administration > MDS Admin to move all the affected MDS to the Org. Unit. (For instructions, see on the IMDS information Pages the respective document on Company Administrator functions). Although searching by IMDS ID is recommended, you may decide to use Part Number for your searches. Keep in mind that the search screen will present your view of the world and not your customers and your company may have entered the data by an internal part number and not your customer’s part number.

2.3. Company Administrator – Move “Linked” Nodes
The problem with data separation is that the entire tree structure must be moved and linked or referenced nodes must either go or stay behind. In order to move the top node, the new company must have visibility to all nodes on the tree. The MDS Report is useful for moving items in preparation for a data separation. Below is a partial preview of the Clip assembly:

The column IMDS ID/Version is very useful because it lists all the MDSs that you will have to make sure are in the Org. Unit in preparation for the move.

These IMDS ID/Versions may be in one of 5 places:

1. Module (and you will not be able to assign these to an Org. Unit as they have no Recipient-specific information attached)

2. Created by another company and published (and you will not have to worry about these as the new company will also have visibility to published Data)

3. Created by your company (Company Administrator will have to use Administration > MDS Admin to move these as was done for top nodes)
4. Sent to your company (Company Administrator will have to use Administration > MDS Admin > Received to move these)

5. Deleted (and the Company Administrator will not be able to move these)

2.4. Fill in Company SplitOff Planner

Contact either mds-solutions@hpe.com or your nearest IMDS Service Center and indicate you want to explore the possibility of data separation.

In the Company SplitOff Planner the Company Administrator documents his data transfer requirements. All source and target companies are listed here.

On the basis of the Company SplitOff Planner, HPE performs an analysis to see how many MDS can be transferred. All transferable and limiting MDS can be identified.

Reasons for not being able to be transferred:

a) The MDS references (links) to datasheets that aren’t in the Org. Unit and are not published

b) There are referenced (linked) MDS that are also referenced (linked) to other MDS that are not in the Org. Unit.
2.5. Company Administrator Tries to Remedy

The Company Administrator can try to fix the situation either by:

- Moving more of the datasheets into the Org. Unit
- If the company created the MDS that is referenced in 2 places, publish the datasheet

2.6. Contact HPE

Contact HPE for a second analysis of the data. At this point, HPE will provide you with a proposal for the Split Off. Should you agree to the Split Off, you will have to issue a Purchase Order for the amount on the proposal.

Send/Propose a Copy to New Company

For small amounts of data, this may be a solution. But it also is not without problems on legacy data. If this method is chosen, be aware that a copy of all existing data remains in the original IMDS company.

Previously “Proposed” Data

If the MDS was previously proposed to the customer, then you may be able to add the new company as a recipient and click on “propose” again. If it does work, the data would only be sent to the new company as the customer has already accepted. Reasons why this may not work:

1. Legacy data containing a component or semi-component with basic substances attached directly to top node.
2. Legacy data containing a material and basic substance attached to the same parent material.
3. Legacy data requiring application codes.

Previously “Sent” Data

If the MDS was previously sent to the customer, you will have to make a copy/new version to send to the new company and the MDS will have to be brought up to current Release requirements.

1. Legacy data containing a component or semi-component with basic substances attached directly to top node.

2. Legacy data containing a material and basic substance attached to the same parent material.

3. Legacy data requiring application codes.

In addition, you may have issues with referenced (linked) MDS/Modules that have been deleted and the information must be recreated.

Receiving Data – Make Your Own

Assuming that you are able to send/propose the data to the new company, you are still not done. The new company must accept the data and probably should make a copy in case future changes required. The Forward option only allows forwarding once and no changes can be made to the structure.

After accepting, the next step is to make a copy/copy of the tree. This will copy the entire tree structure. If the structure isn’t too deep, this may not be bad, but you will have to search out each material that is referenced (linked) that you did not have visibility to (Main Menu > MDS/Module Search > search on ID or name). The newly created materials will start with the word “copy” in the tree structure. On each newly created material, you will have to:

- fix the name
- correct any basic substances that have been hidden
- correct the classification (if required)
- add a material symbol or number (if required)
- add the norm (if required)
- release

**Want to Send to Multiple Org.-Units in Same Company**

Users frequently call the IMDS Service Center with the complaint that they cannot send the same IMDS ID and version to different Organization Units of the same company – or cannot send to another Org. Unit in their parent company. **It is assumed that all users within the same “roof” company have the same standards and processes. Therefore, there should be no reason to send to a sister organization whether in your own “roof” company or more than one Org Unit in another “roof” company.**

That being said, there is one case where the same product is sold to two different Org. Units under different part numbers. In this case, it is suggested that a copy/copy be used. Many large suppliers (the customers with multiple part numbers for the same item) have an offline system where it is expected to be a one-to-one relationship between a part number and the IMDS ID/version. If it is the same part number, instruct your customer that it has already been accepted and they can find it in their system. There is no need to resend the same information including the same part number as they are not using the system as intended and making more work for themselves and your supplier adding cost.

**Summary**

IMDS is extremely logical and fairly intuitive once you understand that it is a database and what you see is not the data but a link to the data in another part of the system and the security rules the play a dominant role in IMDS. We hope that the information provided here is helpful and will help make the experience go smoothly.