

xPPM-neo alpha 2 User Manual

1. Introduction

1.1 How to Install xPPM-neo alpha 2

- Download the installation file using the link below.

Cospec Innolab xPPM-Neo alpha 2.0

Name: xPPM-Neo alpha 2.0

Version: 1.0.0.53

Publisher: Cospec Innolab

The following prerequisites are required:

- Microsoft .NET Framework 4.6.2(x86 및 x64)

If these components are already installed, you can [launch](#) the application now. Otherwise, click the button below to install the prerequisites and run the application.

[Install](#)

[ClickOnce & .NET Framework Resources](#)

Download link: <http://www.inno-lab.co.kr/xppm-alpha2/>

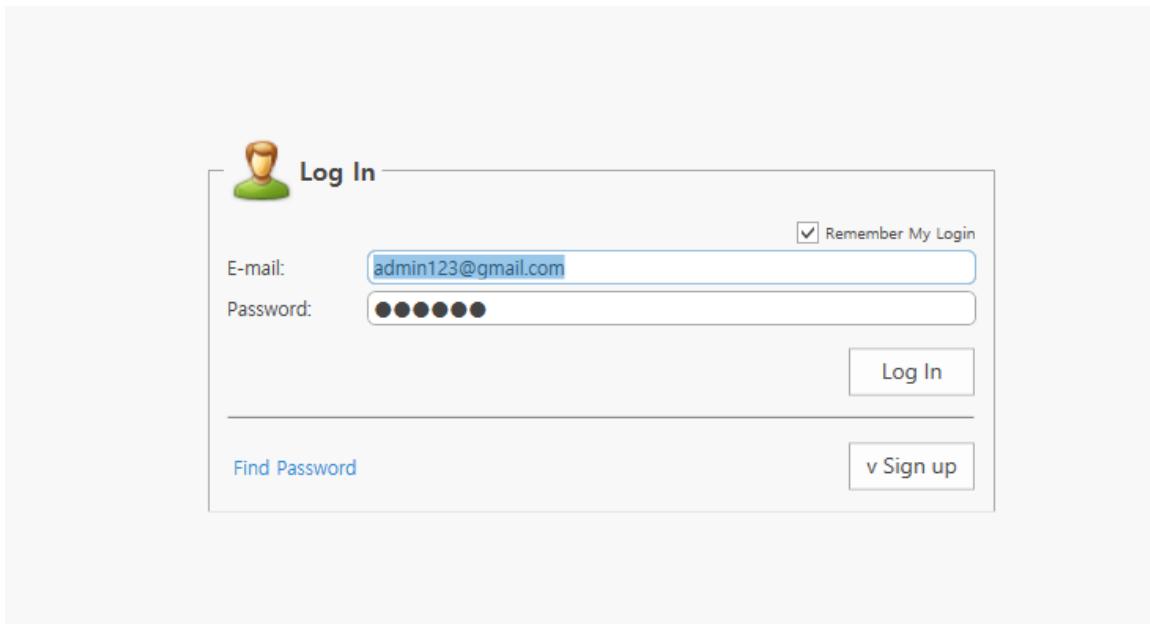
- Double-click setup.exe to install xPPM-neo alpha 2.0.



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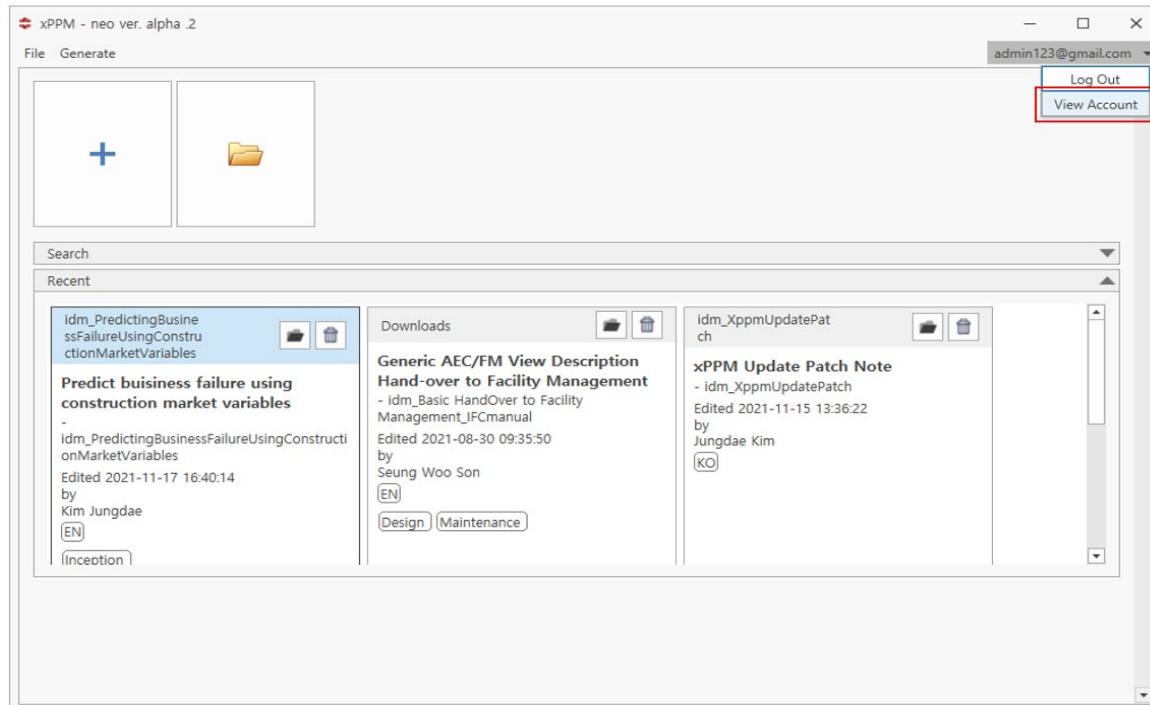
1.2 Log In

- Sign up for a new alpha test account and log in.



1.3 Account Management

- To manage your account, click on your account ID (email address) and select “View Account.”



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- You can check or modify your account information from the “Personal Info” tab.

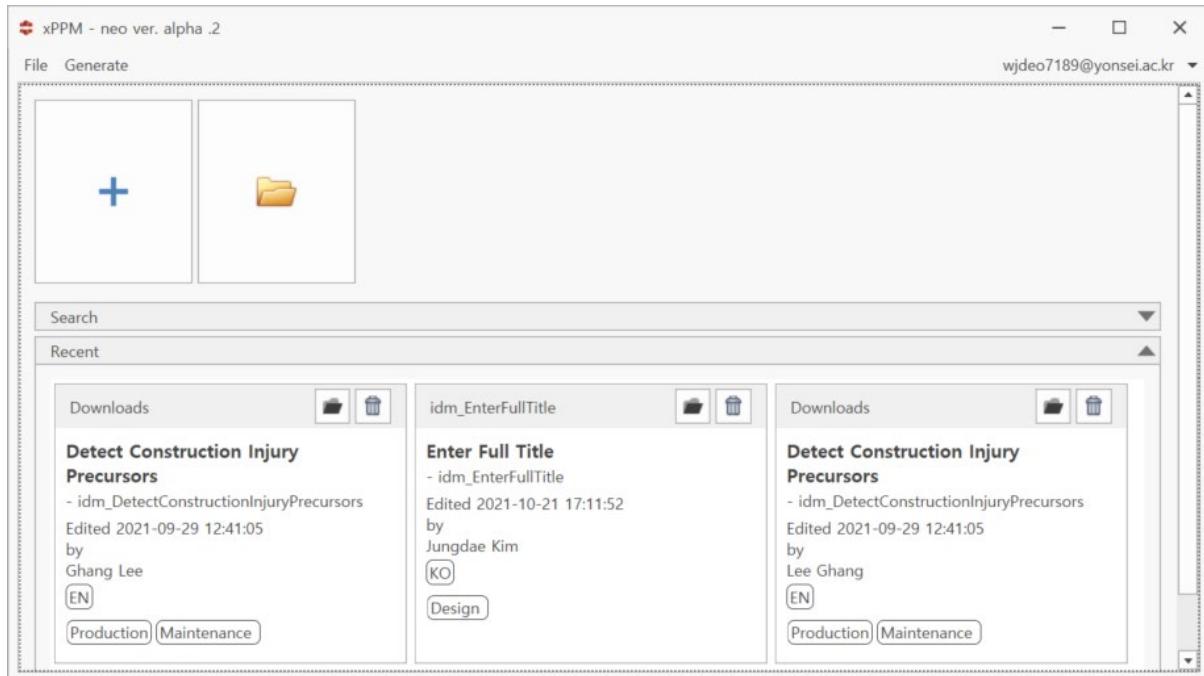
The screenshot shows the 'Manage your Account' window with the 'Personal Info' tab selected. The email address 'admin123@gmail.com' is displayed at the top. On the left, there is a sidebar with 'Personal Info' and 'Security' tabs, where 'Security' is highlighted with a red box. The main area contains fields for First name, Middle name, Last name, Language (set to English), Country (set to Korea, Republic of), Organization (set to Cospec Innolab), Role (set to Research Engineer), and Company Specialization (set to Research). An 'Edit' button is located in the top right corner.

- You can change your password from the “Security” tab.

The screenshot shows the 'Manage your Account' window with the 'Security' tab selected. The title 'Change Password' is displayed, along with a note: 'It's good idea to use a strong password that you don't use elsewhere'. The form includes fields for 'Current Password', 'New Password' (which is currently marked as 'Weak'), and 'Confirm Password'. A 'Change Password' button is at the bottom. The 'Security' tab in the sidebar is highlighted with a red box.

1.4 My Library

- To create a new IDM document, click on the large “+” button.
- To open an existing IDM document, click on the folder button.
- Existing IDM documents can be located using the “Search” tab. Search options will appear when you click on the triangle button on the right.
- Recent IDM documents can be browsed from the “Recent” tab.



2. IDM Documentation

2.1 IDM Basic Information

- Input basic information about your IDM (title, status, author, committee, etc.).
- Do not miss any required information. Required information items are marked with asterisks (*).

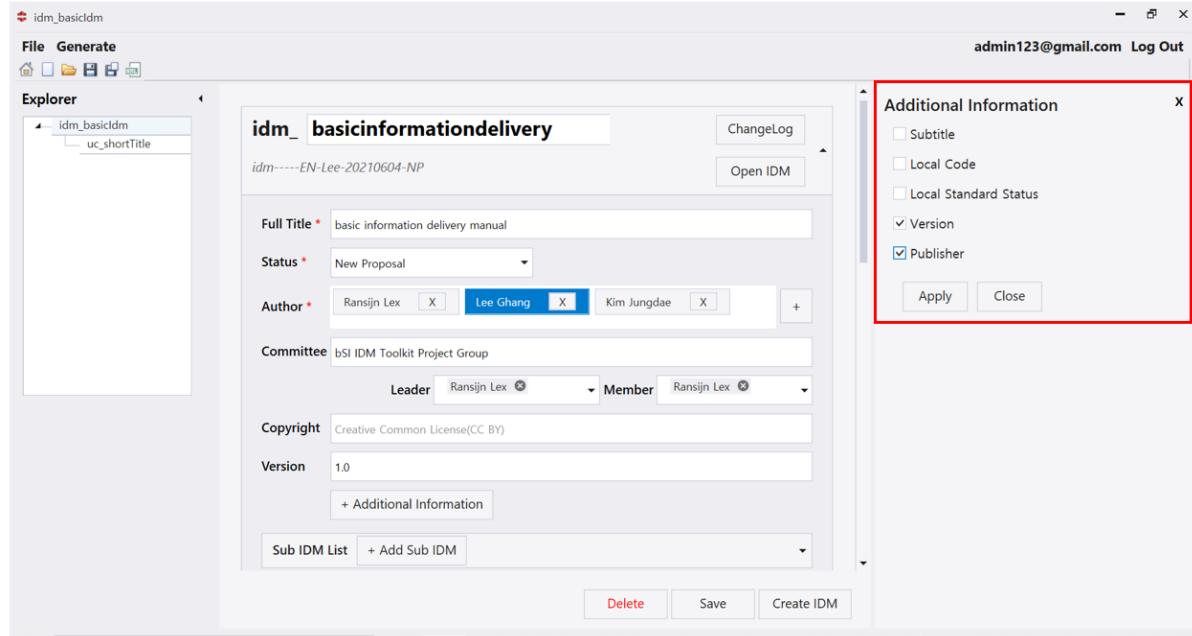
The screenshot shows the 'idm_shortTitle' application window. The left sidebar displays a tree structure with 'idm_shortTitle' expanded, showing 'uc_shortTitle'. The main panel is titled 'idm_ shortTitle' and contains a 'Basic Information' section. The 'Full Title' field is empty. The 'Document status' dropdown is set to 'ISO 29481-3 document status'. The 'Author' field contains 'Kim Jungdae' with an 'X' button to remove it. The 'Committee' field is empty. The 'Copyright' field contains 'Creative Common License(CC BY)'. Below the main panel are buttons for '+ Add Sub IDM' and 'Sub IDM List'.

- Multiple authors' information can be entered and edited.

The screenshot shows the 'idm_basicinformationdelivery' application window. The left sidebar displays a tree structure with 'idm_basicinformationdelivery' expanded, showing 'uc_basicinformationdelivery'. The main panel is titled 'idm_ basicinformationdelivery' and contains a 'Basic Information' section. The 'Full Title' field is filled with 'basic information delivery manual'. The 'Document status' dropdown is set to 'New Proposal'. The 'Author' field contains two entries: 'John Doe' and 'Jungdae Kim', each with an 'X' button to remove it. The 'Committee' field contains 'John Doe', 'jd123@gmail.com', and 'BIG Group'. The 'Copyright' field contains 'Edit'. Below the main panel are buttons for '+ Add Sub IDM' and 'Sub IDM List'.

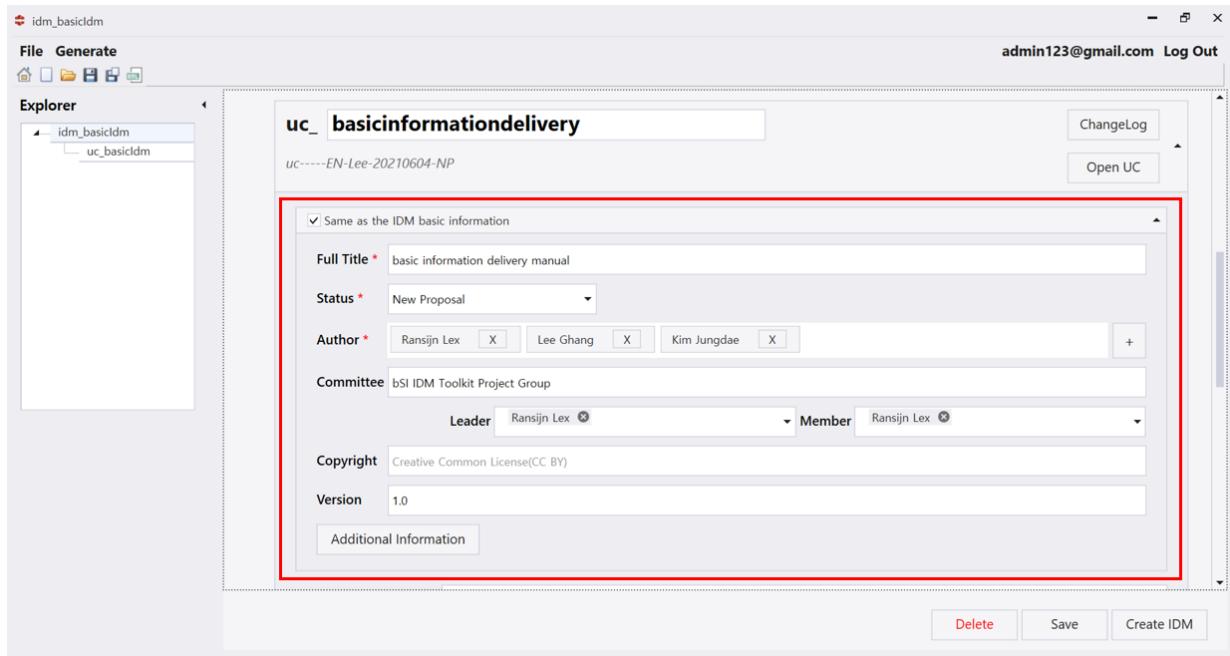
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- You may also add further information, such as subtitle, local code, local standard status, version, and publisher, by clicking on the “Additional Information” button below “Version” and checking the items that you would like to add in the “Additional Information” pane on the right side.



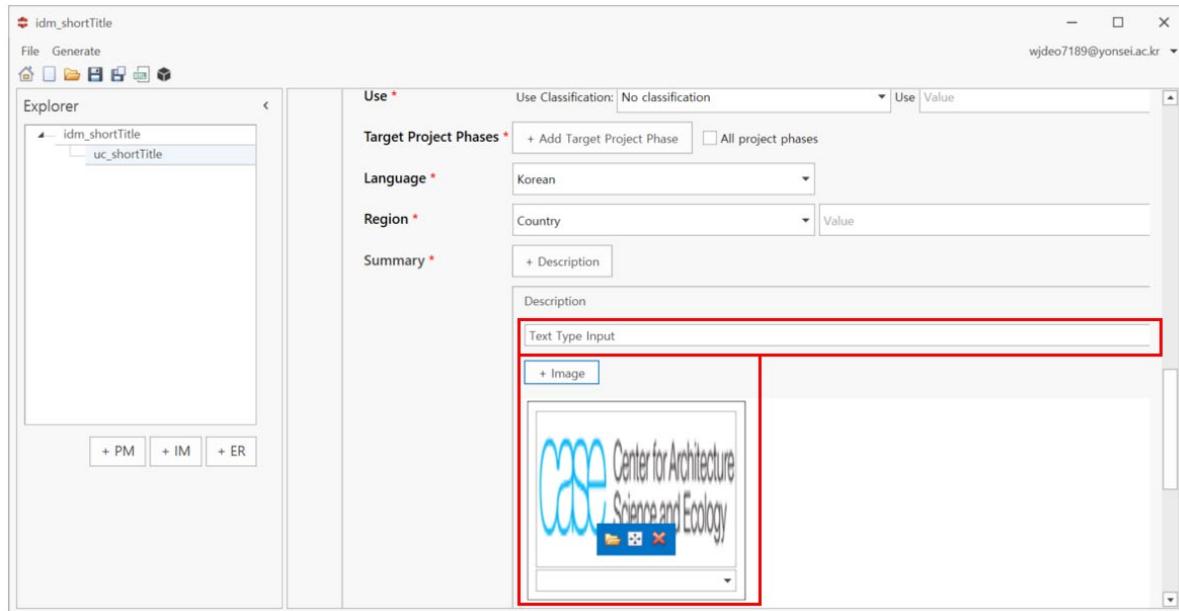
2.2 Use Case (UC) Specification

- Check “Same as the IDM basic information” if a use case (UC) is specified by the same author group. If not, you may input new values for each field.

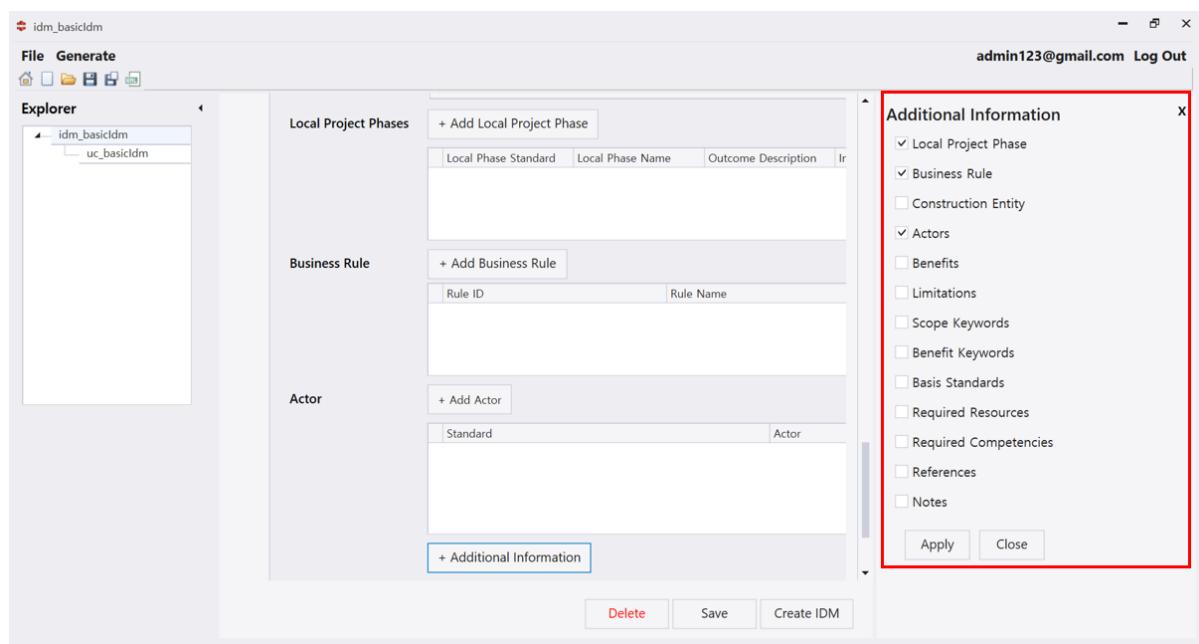


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- Input “Target Project Phases,” “Language,” “Region,” “Summary,” and “Aim and Scope” to explain your UC.
- A summary can consist of a series of descriptions, including text and matching images.



- There are further optional elements for UC definition. Some elements, such as actors and business rules, can also be referenced by the other IDM components (i.e., PM and ER).



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- A business rule describes the constraints that can be applied to the set of data used for a particular process or activity. Multiple business rules can be added.
- A unique rule ID should be given to each business rule so that business rules can be referenced by constraints in the ER. The main difference between a business rule and a constraint is that a business rule is a restriction from a work process perspective, whereas a constraint is a restriction from an information requirement perspective.

The screenshot shows the IDM software interface with the following details:

- File Bar:** File, Generate, Log Out (admin123@gmail.com).
- Explorer:** Shows nodes like idm_basicIdm and uc_basicIdm.
- Local Project Phases:** A table with columns Local Phase Standard, Local Phase Name, Outcome Description, and Information Requirement. It lists AIA Project Stages: PD: Pre-Design, SD: Schematic Design, and DD: Design Development.
- Business Rule:** A table with columns Rule ID and Rule Name. It shows a row for f02f88da-acf0-4f37-9f16-81a7a2a465a1 with Rule Name countryRegulation.
- Actor:** A table with columns Standard and Actor. It shows a row for OmniClass Table 33 with Actor architect.
- Additional Information:** A section containing a search bar and a large text area with the following content:


```
Rule ID: f02f88da-acf0-4f37-9f16-81a7a2a465a1
Rule Name: countryRegulation
Proposition: All of the conditions are following each country regulation.
Reference: All of the conditions are following each country regulation.
```
- Buttons:** Delete, Save, Create IDM.
- Business Rule Dialog:** A modal window titled "BusinessRule" with fields for Rule ID (f02f88da-acf0-4f37-9f16-81a7a2a465a1), Rule Name (countryRegulation), Proposition (All of the conditions are following each country regulation.), and Reference (All of the conditions are following each country regulation.). It also contains a "Search" field and "Save" and "Cancel" buttons.

- Define actors. If actor names/roles are specified according to a certain actor classification standard, such as OmniClass™ Table 33, the standard can also be specified.

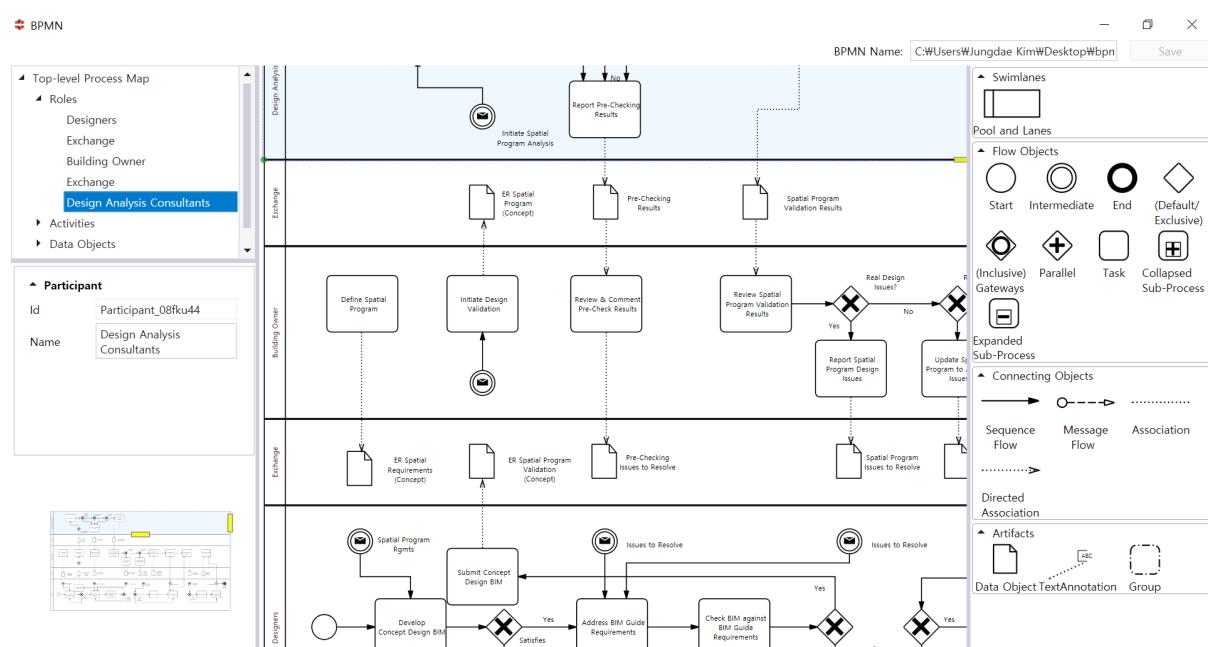
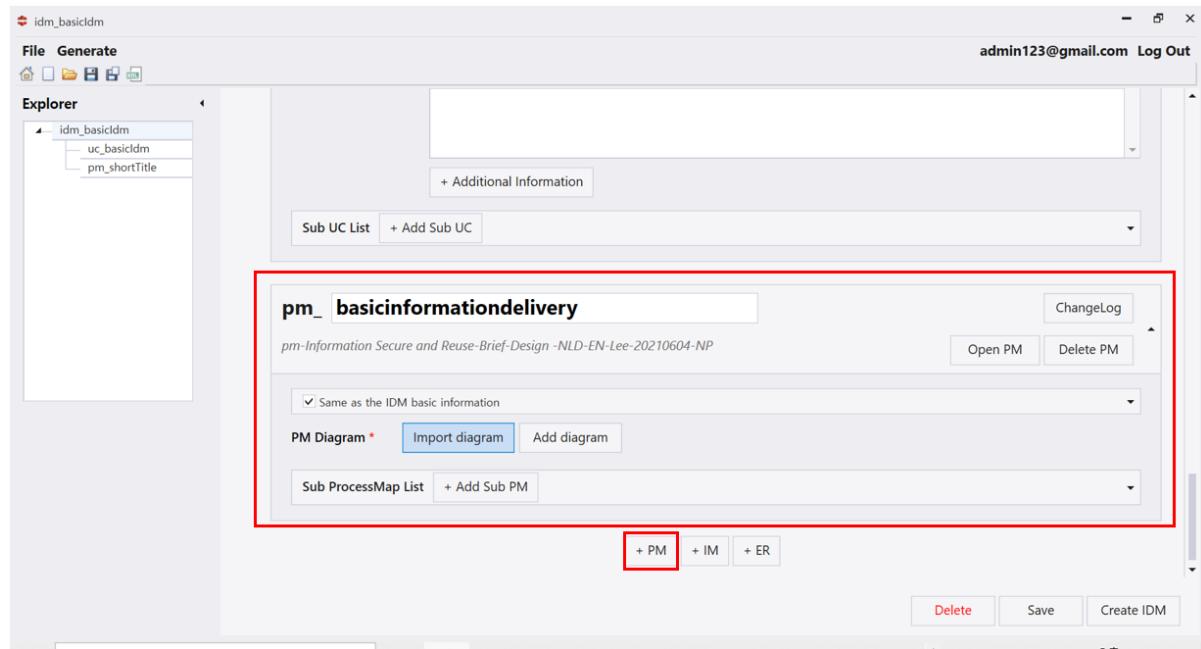
The screenshot shows the IDM software interface with the following details:

- File Bar:** File, Generate, Log Out (admin123@gmail.com).
- Explorer:** Shows nodes like idm_basicIdm, uc_basicIdm, pm_shortTitle, and er_shortTitle.
- Local Project Phases:** A table with columns Local Phase Standard, Local Phase Name, Outcome Description, Information Requirements, and Exchange Requirements. It lists AIA Project Stages: PD: Pre-Design, SD: Schematic Design, and DD: Design Development.
- Business Rule:** A table with columns Rule ID, Rule Name, and Proposition. It shows a row for f02f88da-acf0-4f37-9f16-81a7a2a465a1 with Rule Name countryRegulation and Proposition All of the conditions are following ea...
- Actor:** A table with columns Standard and Actor. It shows a row for OmniClass Table 33 with Actor architect.
- Additional Information:** A section containing a search bar and a large text area with the following content:


```
All of the conditions are following each country regulation.
```
- Buttons:** Delete, Save, Create IDM.
- Actor Dialog:** A modal window titled "Actor" with fields for Standard (OmniClass Table 33) and Actor (architect). It also contains a "Search" field and "Save" and "Cancel" buttons.

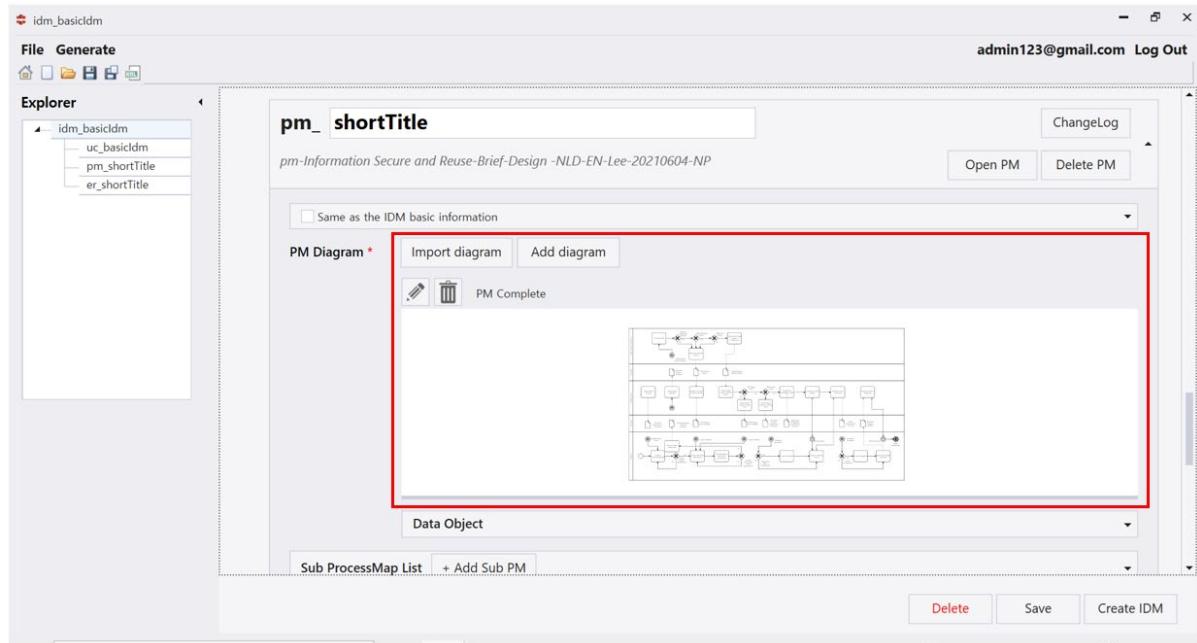
2.3 Business Context Map

- A business context map can be specified as a process map (PM) or an interaction map (IM). Currently, xPPM-neo has a PM editor in the business process modeling notation (BPMN) format but does not have an IM editor. IMs can be read only as images.
- To add a PM, click on the PM button, then click on the “Add diagram” button to create a new PM using the BPMN editor.

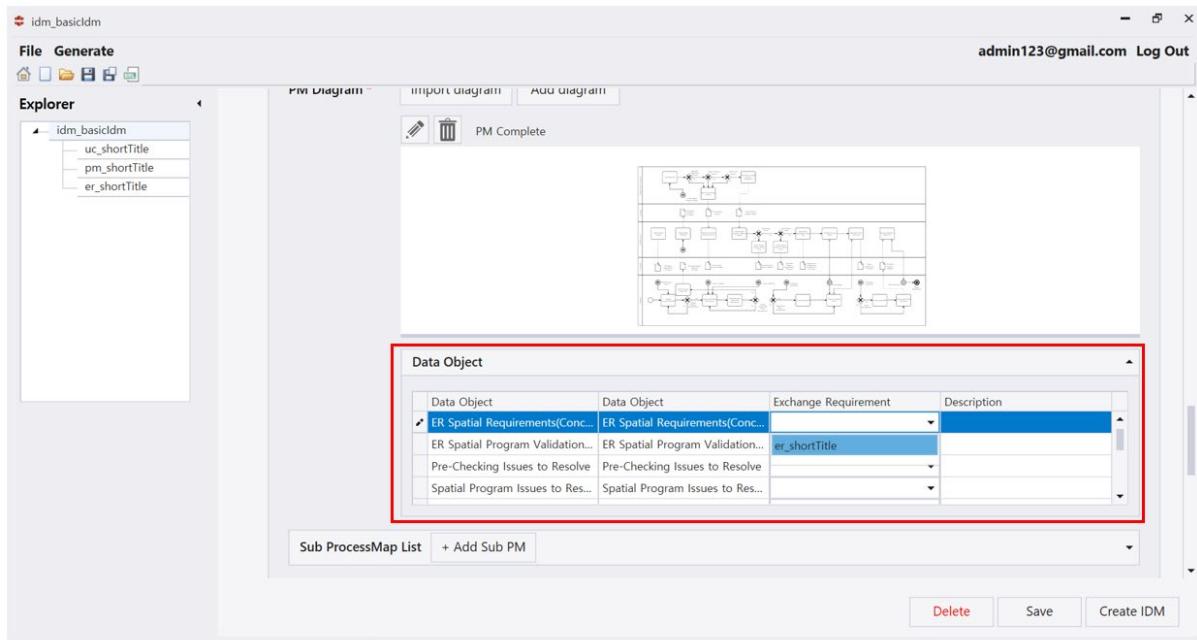


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- To import an existing PM, click on “Import diagram” and select a desired BPMN file (*.bpmn).

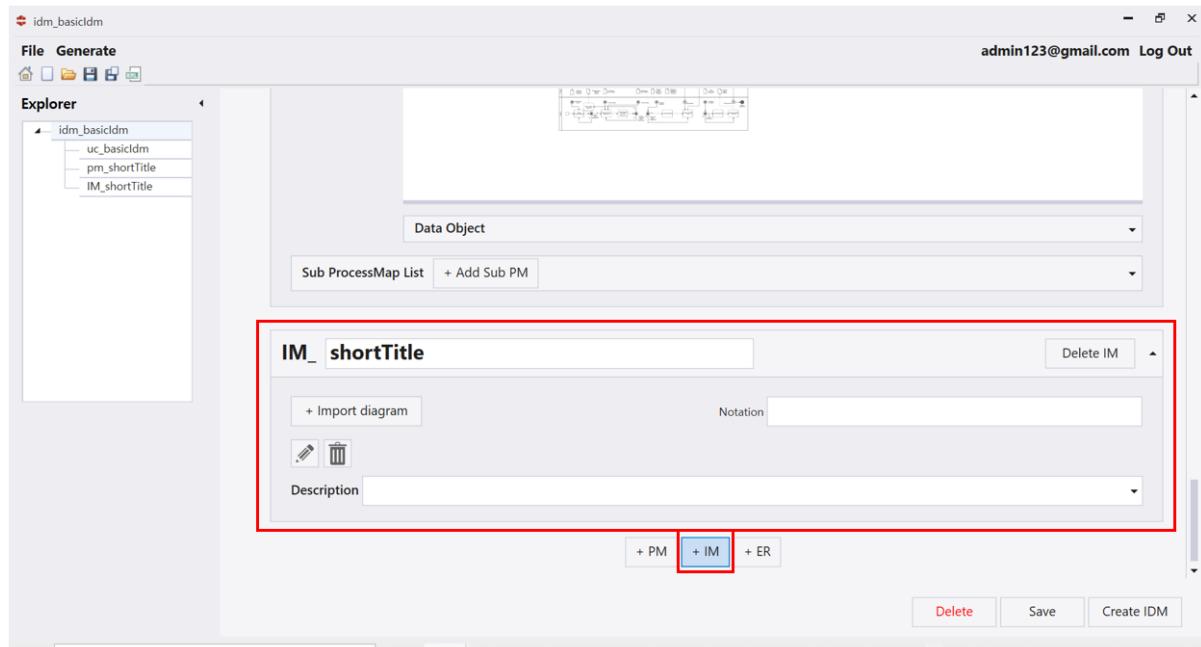


- Once a BPMN diagram is registered, the data objects in your PM will automatically be listed in the data object table.
- Data objects can be mapped to ERs after you finish registering the ERs. The ER specification method is explained in the next section.



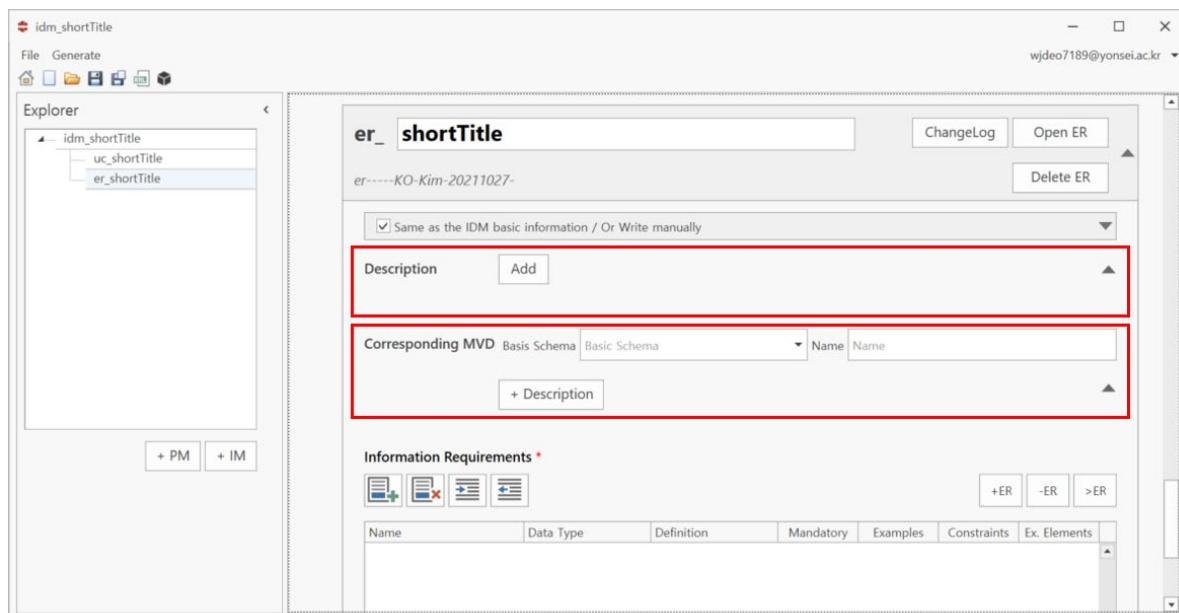
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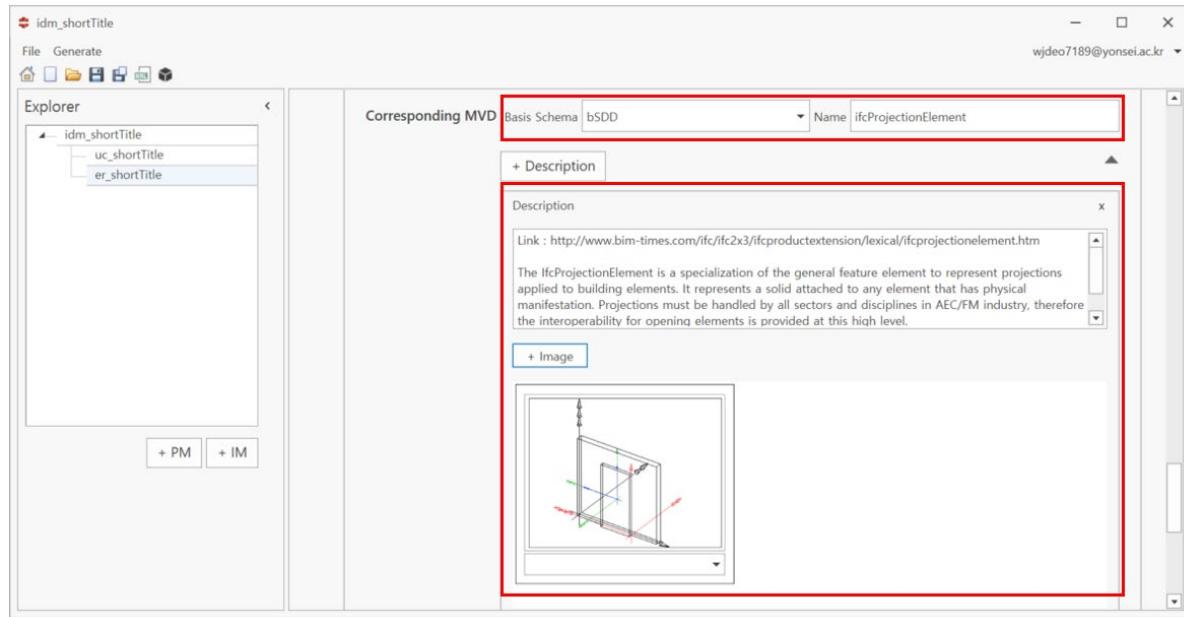
- IMs can be uploaded as image files.



2.4 ERs

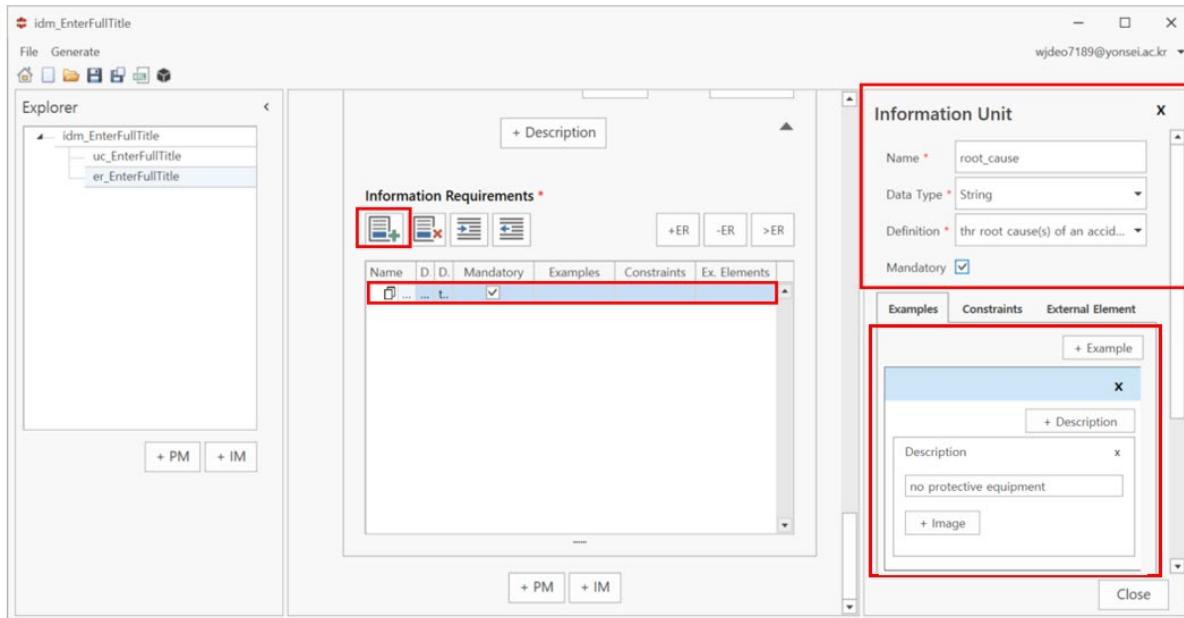
- Input a description for your ER.
- Specify an MVD corresponding to your ER if required. When defining a corresponding MVD, you can define the basis schema and name of the MVD and add a description with relevant images. The basis schema is the data schema, such as IFC or OpenGIS, that an MVD is based on.





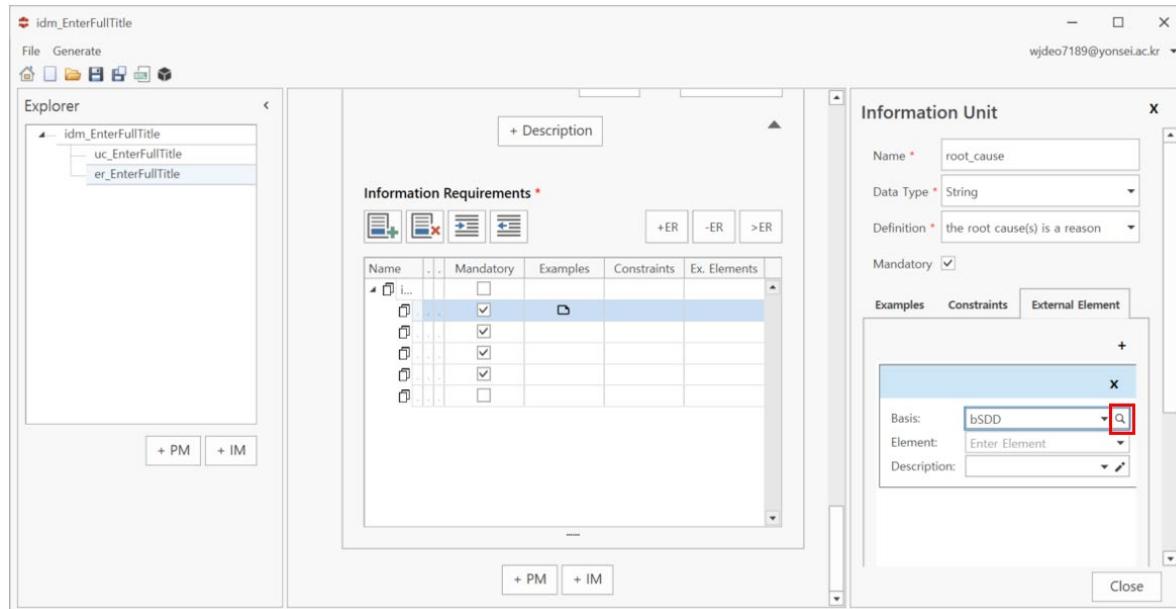
2.4.1 Information Unit

- Click “Add Information Unit” to add a new information unit.
- Double click to define the name, the data type, whether the information is mandatory, the definition, and examples for the selected information units.



2.4.2 External Element

- You can also map an information unit to an element of an existing open standard data schema, such as IFC, OpenGIS, CityGML, or bSDD, from the “External Element” tab on the “Information Unit” pane on the right side.
- To specify the basis standard for a corresponding external element, select “Basis Standard.”
- xPPM-neo alpha 2 supports direct connection to the bSDD database. To map information units to bSDD elements, select bSDD as the basis standard and click the magnifier icon to search for corresponding bSDD elements.



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- Search for corresponding external elements (e.g., IFC elements in bSDD) using the element name, description, keywords, etc.

The screenshot shows the 'buildingSMART Data Dictionary' application window. At the top, there is a search bar with the text 'ifcbearing' and a 'Search' button. Below the search bar, the 'Classification' tab is selected, displaying a table with columns: Domain Name, Name, and Description. A red box highlights the row for 'IfcBearing.POT'. Below the classification table, the 'Property' tab is visible, showing a table with columns: Property name and Description. A 'Select' button is located at the bottom right of the property table.

Domain Name	Name	Description
IFC	IfcBearing	Type of building element that is u...
IFC	IfcBearing.CYLINDRICAL	The bearing functionality is provide...
IFC	IfcBearing.DISK	A disk bearing consist of an elasto...
IFC	IfcBearing.ELASTOMERIC	A pad bearing which carries vertica...
IFC	IfcBearing.GUIDE	A bearing that ensures that the str...
► IFC	IfcBearing.POT	A bearing which carries vertical lo...
IFC	IfcBearing.ROCKER	The bearing functionality is provide...
IFC	IfcBearing.ROLLER	The bearing functionality is provide...
IFC	IfcBearing.SPHERICAL	The bearing functionality is provide...

- You can also view the properties of a selected element by double-clicking on the selected element. If you find any properties that are relevant to an ER, you can select them to automatically add them as the information subunits of the initially selected information unit.

The screenshot shows the 'buildingSMART Data Dictionary' application window with the 'Classification' and 'Property' tabs. The 'Classification' table has a red box around the 'IfcBearing' row. The 'Property - IfcBearing' table has a red box around the 'DisplacementAccomodated' and 'RotationAccomodated' rows, which are both checked.

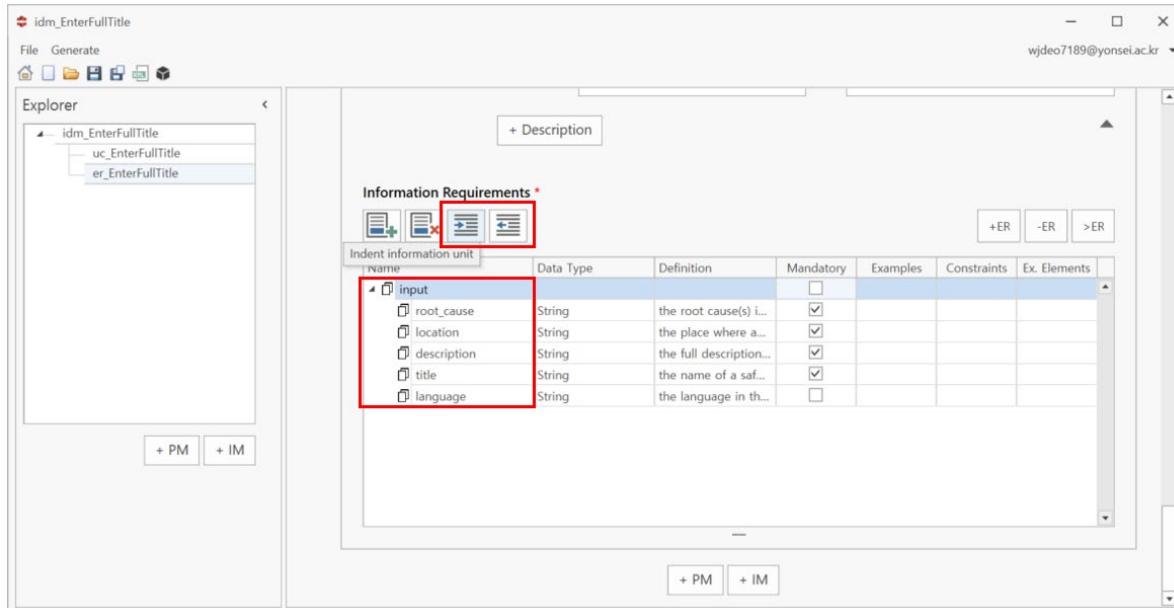
Domain Name	Name	Description
► IFC	IfcBearing	Type of building element that is u...
IFC	IfcBearing.CYLINDRICAL	The bearing functionality is provi...
IFC	IfcBearing.DISK	A disk bearing consist of an elast...
IFC	IfcBearing.ELASTOMERIC	A pad bearing which carries vertic...
IFC	IfcBearing.GUIDE	A bearing that ensures that the st...
IFC	IfcBearing.POT	A bearing which carries vertical lo...
IFC	IfcBearing.ROCKER	The bearing functionality is provi...
IFC	IfcBearing.ROLLER	The bearing functionality is provi...

Classification	Property name	Description
<input checked="" type="checkbox"/> IfcBearing	DisplacementAccomodated	A list of exactly three boolea...
<input checked="" type="checkbox"/> IfcBearing	RotationAccomodated	A list of exactly three boolea...

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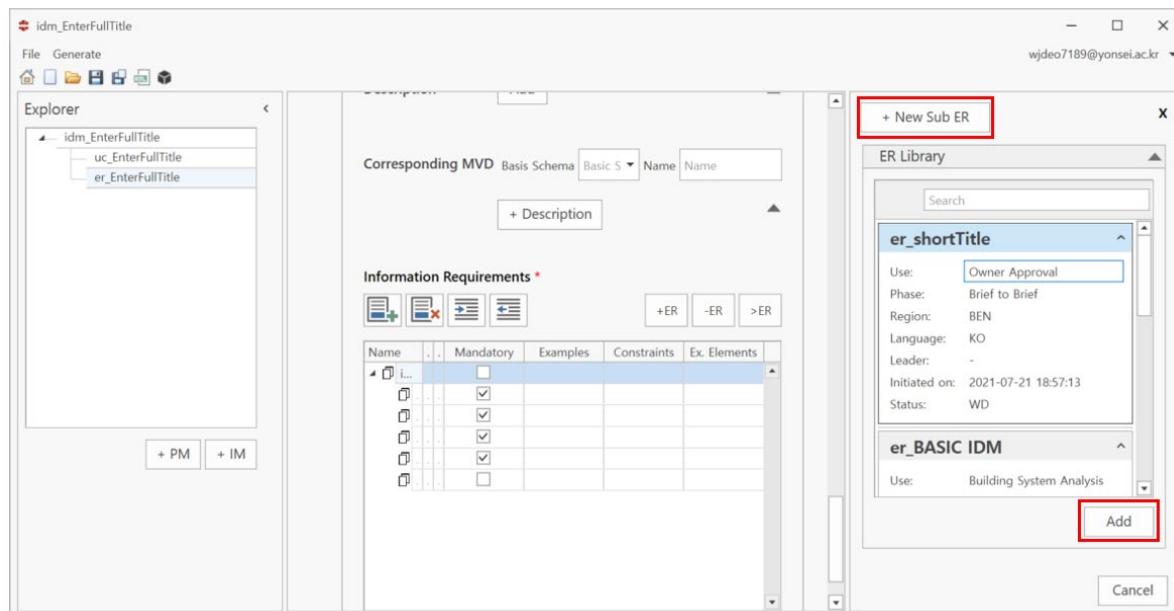
2.4.3 Information Subunits

- Use the indentation buttons to specify and modify hierarchical relationships between information units and information subunits.



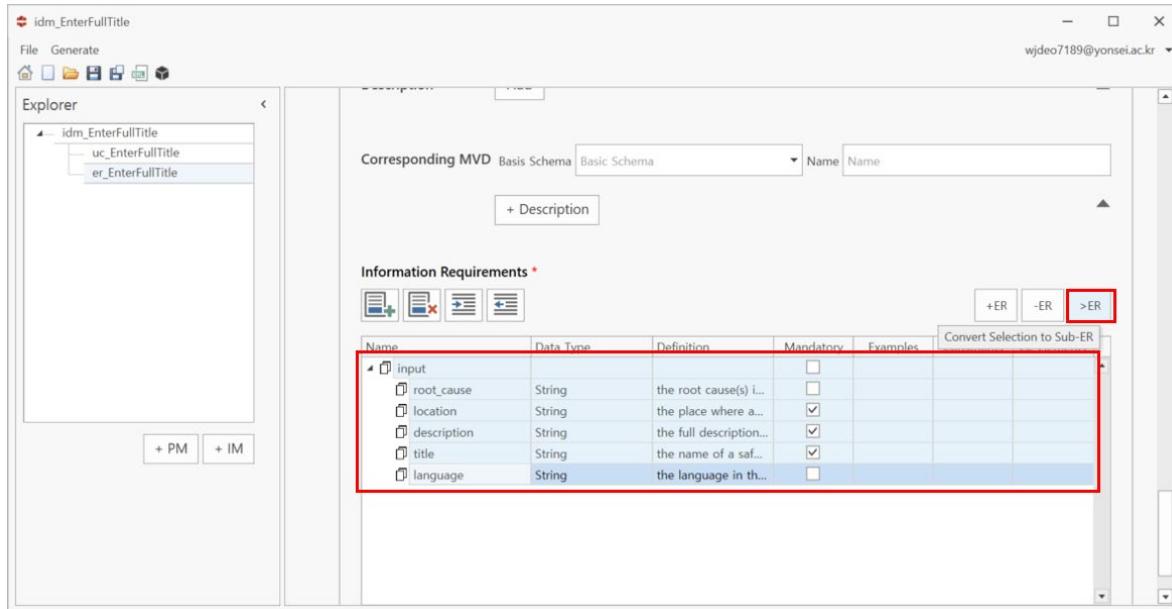
2.4.4 Sub-ERs

- To add an existing ER as a sub-ER of the current information requirements list, click on the “+ER” button.
- To remove a sub-ER from the information requirements list, click on the “ER” button.



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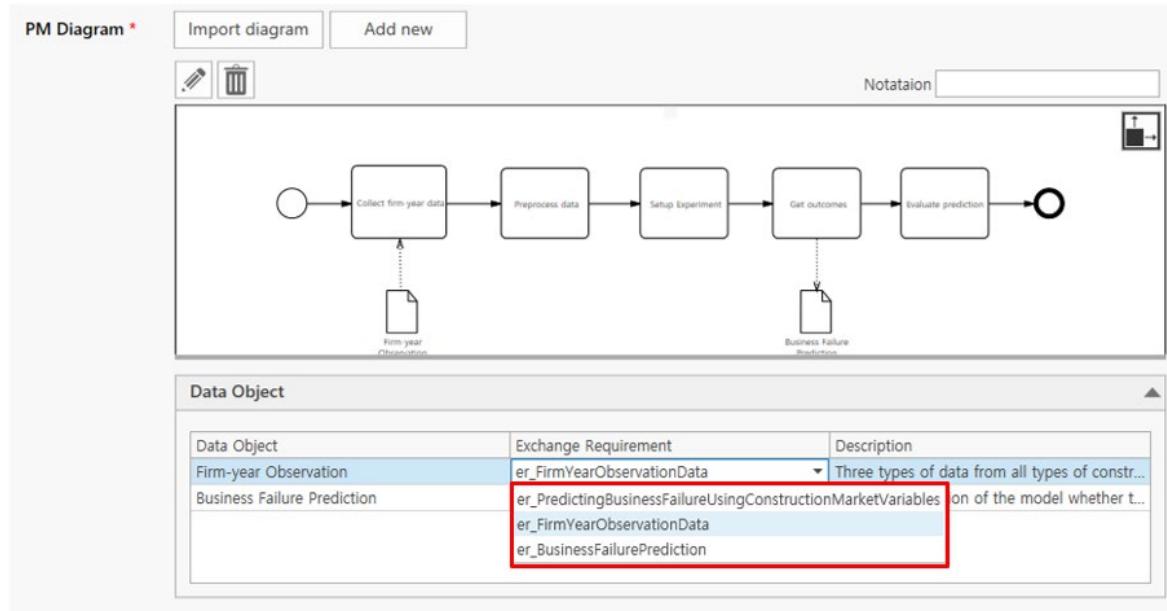
- To convert a list of information units into an independent sub-ER, select existing information units to convert them and click on the “>ER” button.



2.4.5 Referencing an ER by Other IDM Components

- After completing an ER registration, ERs can be referenced by the other IDM components, such as target project phases in the UC (Section 2.2) or data objects in the PM (Section 2.3).

Target Phase Name	Outcome Description	Information Requirement Desc...	Exchange Requirement
Inception	prediction of the proba...	3 types of firm-year Dat...	er_FirmYearObservationData
			er_PredictingBusinessFailureUsingConstructionMarketVariables
			er_FirmYearObservationData
			er_BusinessFailurePrediction



3 IDM Export

3.1 Exporting an IDM Document as an idmXML File

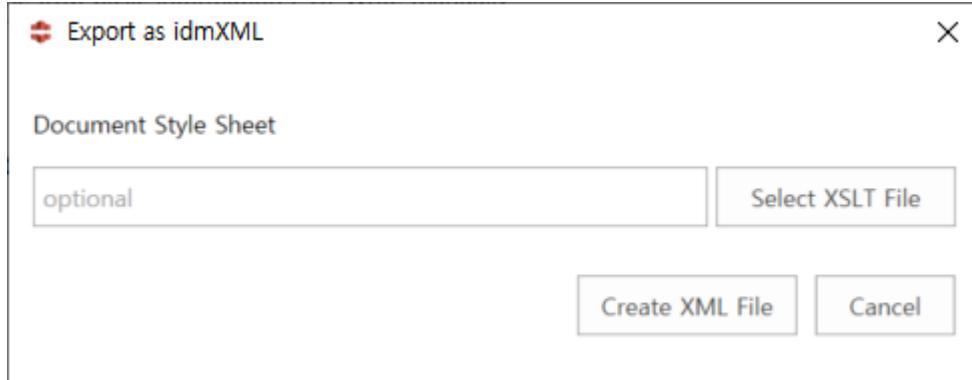
- Click on the "Export" icon on the menu bar or menu ribbon to export an IDM document as an idmXML file.

The screenshot shows the IDM Basic IDM export interface with the following sections:

- Export as idmXML** button (highlighted with a red box).
- er_BASIC IDM** tab.
- Information Requirements** table:

Name	Data Type	Definition	Mandatory	Examples	Constraints	Ex. Elements
which Structure will we use?	various	The agreements listed below help ensure that every involve...	✓	✓	✗	✗
file name	string	Ensure that uniform and consistent naming is used for (d...)	✓	✓	✗	✗
local position and orientation	coordinate	The local position of the building is coordinated and close...	✓	✓	✗	✗
building storeys and naming	string	Name Building Storeys only as ifcBuildingStorey-Name->... Use the most appropriate type of BIM->entity, both in t...	✓	✓	✗	✗
correct use of entities	string	Consistently structure and name objects->Correctly enti...	✓	✓	✗	✗
structure and naming	string	Apply the existing classification system used in the relevan...	✓	✓	✗	✗
classification system	string	Allocate objects with a material description ifcMaterial...	✓	✓	✗	✗
objects with correct materialization	string					

- Optionally, you can select an eXtensible Stylesheet Language transformation file (*.xslt) to format the idmXML file.
- Select the path by which to export the *.xml file.



3.2 Browsing Documents

- You can browse for an exported XML file in the Internet Explorer environment.

C:\Users\Jungdae Kim\Desktop\Xppm\IDM\idm_basicIdm(2)\idm_basicIdm.xml

BIM BASIC INFORMATION DELIVERY MANUAL (IDM)

1. WHY ARE WE SHARING THIS INFORMATION UNAMBIGUOUSLY?

To secure and reuse information more efficiently and effectively.

SPEAK THE SAME LANGUAGE

ELIMINATE WASTEFUL TASKS

2. HOW ARE WE GOING TO SHARE THIS INFORMATION UNAMBIGUOUSLY?

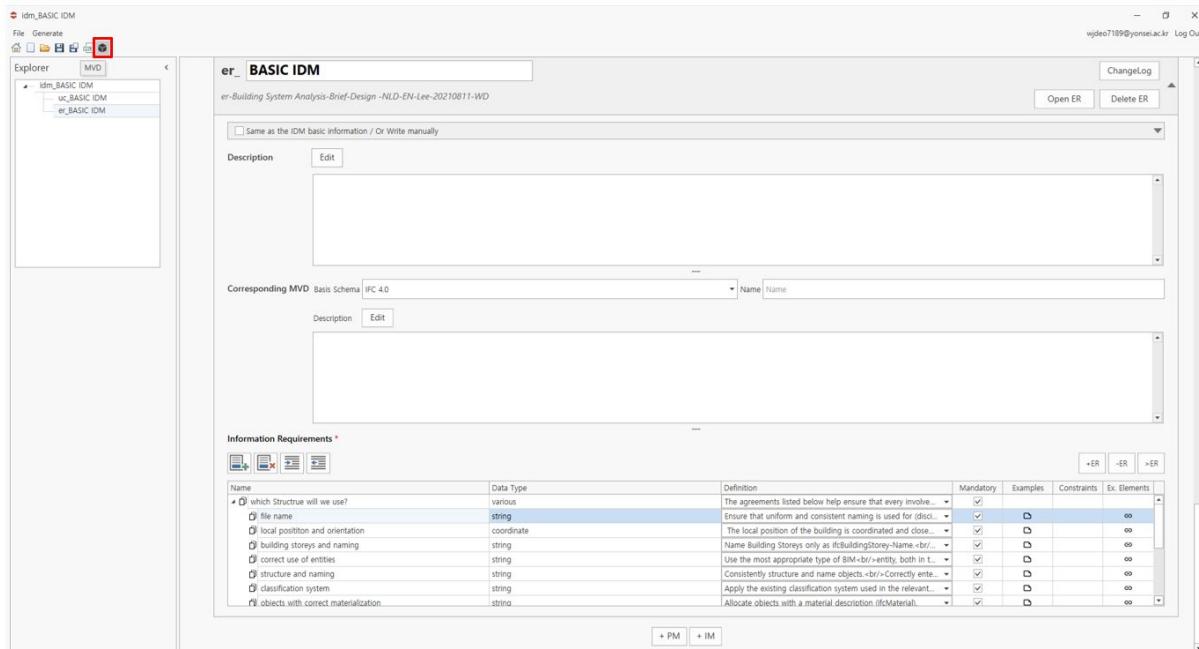
Knowledge and practical experiences have shown that there is a significant common denominator. We are not developing something new, but rather using existing structures, based on openBIM IFC.

NEW

IFC

3.3 Generating an MVD

- Click on “Generate MVD” on the Menu bar. Currently, xPPM-neo only supports the generation of an MVD based on IFC 2x3 and IFC 4x2:
 - Lee, G. (2009). “Concept-based method for extracting valid subsets from an EXPRESS schema.” *Journal of Computing in Civil Engineering*, 23(2), 128–135.
- Note that an MVD will not be generated if information units are not mapped to corresponding external elements (i.e., IFC elements).



- Name your MVD Schema and select the basis IFC version, then click on “Generate” to create an MVD in EXPRESS (*.exp).

