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## Clobbi
**Intelligent Business Operations**

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# IMPORT OF BOM FROM A CAD-DESIGNED 3D MODEL

ERP – CAD integration is quite important for prompt engineering and manufacturing preparations. It provides a facility of prompt transfer of BOM from a CAD system to the ERP system with simultaneous replenishment of the resources classifier with in-house produced items as well as different materials and purchased components. This saves a huge amount of dull work of filling in bulky company resource reference books that otherwise will have to be done manually, which is especially true when a product consist of thousands of constituents, thus effectively eliminating the human factor that may cause data corruption during exchange of information between the systems designed to handle different tasks.

The integration of ERP with CAD systems will be truly indispensable for job lot production, when each order is unique and consists of new elements never designed earlier for other orders.
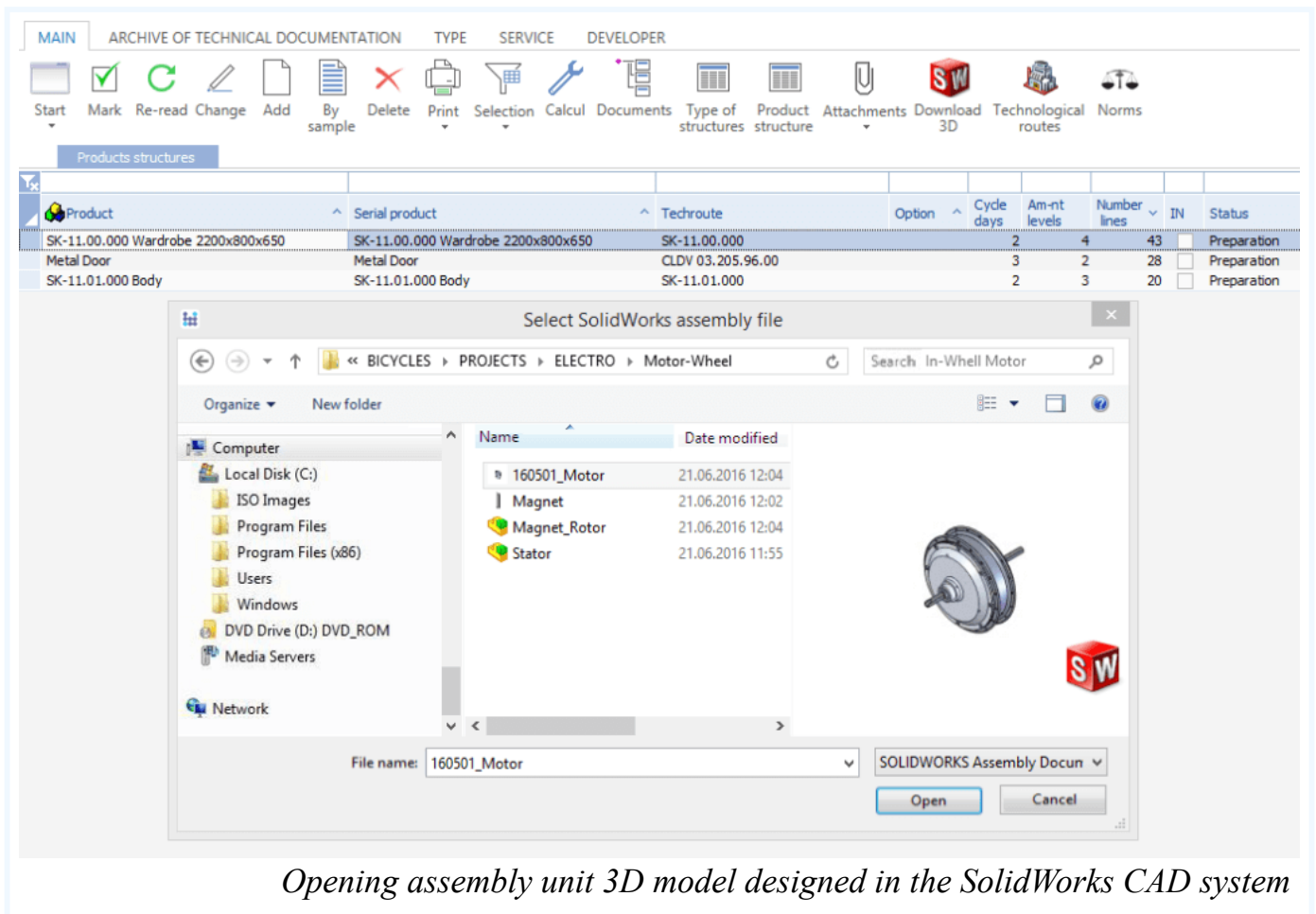


*Import of 3D assembly to CLOBBI Uploading bill of materials*
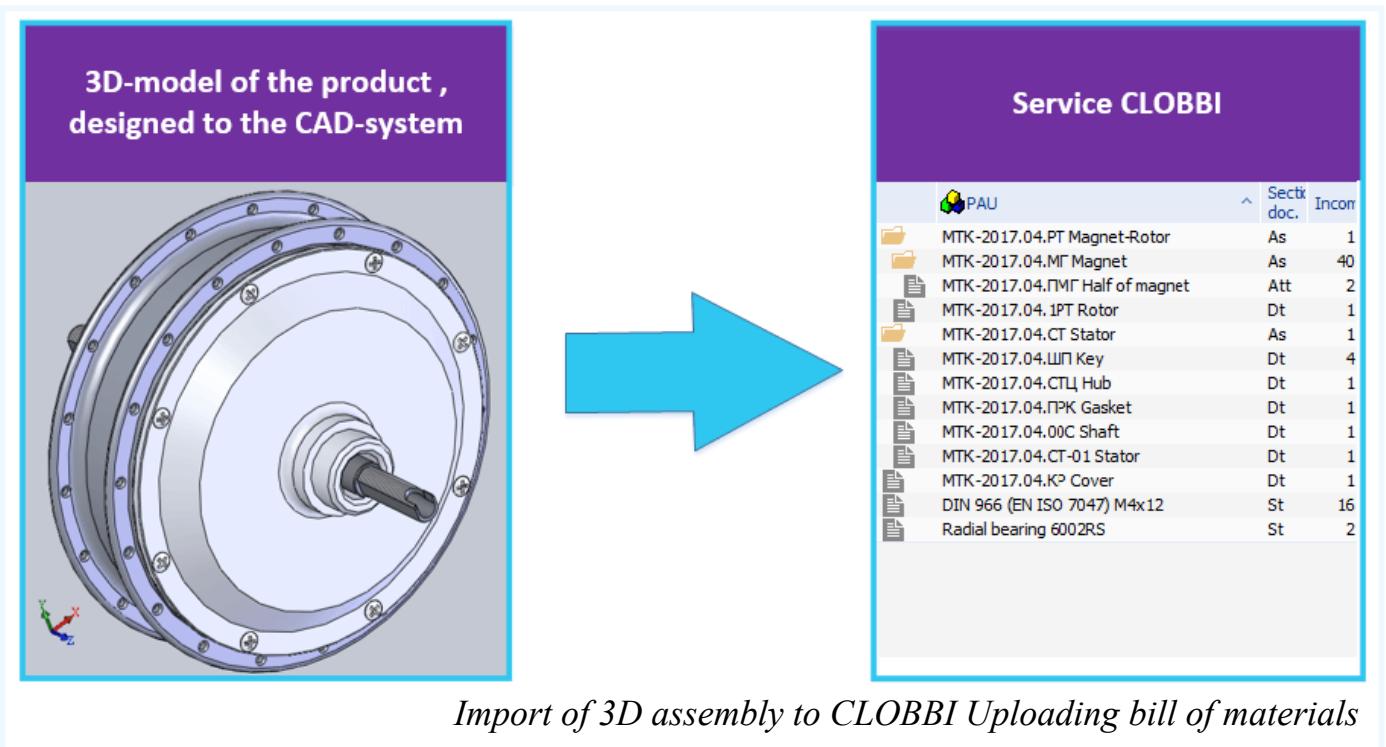
## Get BOM structure right from 3D model of the assembly unit

After the designer completes the design of a 3D model, h_____ the bill of material for this item to Clobbi upon having obtained the full product hier_____

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model.



*Opening assembly unit 3D model designed in the SolidWorks CAD system*

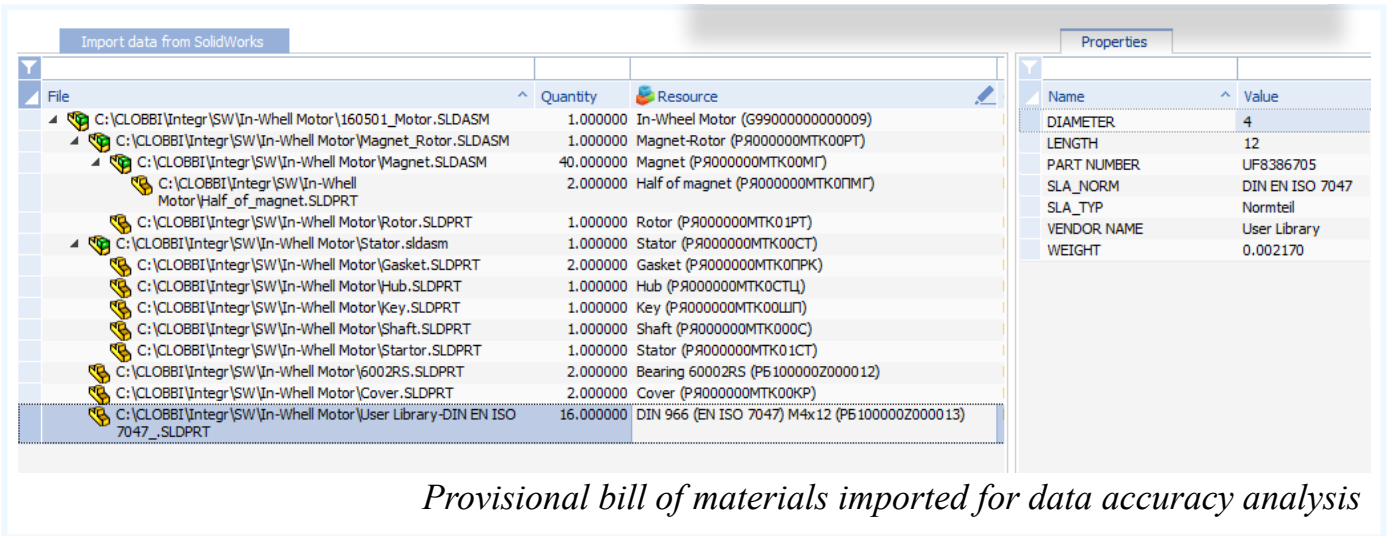*Opening assembly unit 3D model designed in the SolidWorks CAD system*

*Structure of assembly unit 3D model in the CAD system*

# Automatic generation of resources classifier

Resources (all constituent parts of the product) will be generated automatically according to a present algorithm and added to the resources classifier thus effectively addressing several tasks at a time:

- BOM generation
- Resources classifier input
- Description of each resource based on existing specifications

Then the system will identify newly created resources for each item. Should information for any of the items be incomplete (the user will be duly alerted to that), the designer will have to update all the parameters for this product in the CAD system and repeat reading BOM from the 3D model. Upon that the generated bill of materials will be saved with a complete set of data.

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*Provisional bill of materials imported for data accuracy analysis*

*Provisional bill of materials imported for data accuracy analysis*

A second reading of the bill of materials will generate only those resources that are absent in the previous version of the 3D model (the manufactured item with a modified value of the parameter being read – e.g. the length or diameter of the piece, will be treated as a new resource with newly generated code and designation). This eliminates data duplication since the resources with the same basic specifications are assigned unique codes.

The data are imported from CAD systems to Clobbi for a single-piece manufactured item or an individual assembly unit. One cycle will import data or generate bill of materials for one item or one assembly unit.

The import of data will add a BOM tree to the BOM register, with the tree generated based on data described for 3D model in the CAD system.

**MAIN**    ARCHIVE OF TECHNICAL DOCUMENTATION    TYPE    SERVICE    DEVELOPER

Start  Mark  Re-read  Change  Add  By sample  Delete  Print  Selection  Calcul  Documents  Type of structures  Attachments  Download 3D

**Products structures**

| Product | Serial product | Techroute | Opti |
|---|---|---|---|
| SK-11.00.000 Wardrobe 2200x800x650 | SK-11.00.000 Wardrobe 2200x800x650 | SK-11.00.000 | |
| Metal Door | Metal Door | CLDV 03.205.96.00 | |
| SK-11.01.000 Body | SK-11.01.000 Body | SK-11.01.000 | |
| MTW-2017.04 In-Wheel Motor | MTW-2017.04 In-Wheel Motor | MTK-2017.04 | |

Row 4 from 4

**Product structure**

| PAU | Sectio doc. | Pos | IncomConst | ApplDesign | MU | Attr prod |
|---|---|---|---|---|---|---|
| МТК-2017.04.РТ Magnet-Rotor | As | 1 | 1 | 1 | FN | Own.man. |
| МТК-2017.04.МГ Magnet | As | 9 | 40 | 40 | FN | Own.man. |
| МТК-2017.04.ПМГ Half of magnet | Att | 16 | 2 | 80 | FN | Purchase |
| МТК-2017.04.1РТ Rotor | Dt | 10 | 1 | 1 | FN | Own.man. |
| МТК-2017.04.СТ Stator | As | 2 | 1 | 1 | FN | Own.man. |
| МТК-2017.04.ШП Key | Dt | 4 | 4 | 4 | FN | Own.man. |
| МТК-2017.04.СТЦ Hub | Dt | 5 | 1 | 1 | FN | Own.man. |
| МТК-2017.04.ПРК Gasket | Dt | 6 | 1 | 1 | FN | Own.man. |
| МТК-2017.04.00С Shaft | Dt | 7 | 1 | 1 | FN | Own.man. |
| МТК-2017.04.СТ-01 Stator | Dt | 8 | 1 | 1 | FN | Own.man. |
| МТК-2017.04.КР Cover | Dt | | 1 | 0 | FN | Own.man. |
| DIN 966 (EN ISO 7047) M4x12 | St | | 16 | 0 | FN | Purchase |
| Radial bearing 6002RS | St | | 2 | 0 | FN | Purchase |

*Final bill of materials*

The system functions include setting a method for automatic code generation based on design designation for all items of the bill of materials.

If there is a need of further work on design specifications, you can generate specifications from the bill of materials to work with them as usual.

# Define all specifications of the product for import of the bill of materials from the CAD system to Clobbi

The first thing you will need to do is to give detailed description of all parameters of the product that will be used in calculations and documents generation. For example, these may include such characteristics as product material, product standard size, weight, vendor's reference number for purchased components, standard designation and many other parameters. The algorithm to specify the code of the resource (part, assembly unit, purchased integrated parts, material), its name and designation has to be set in advance. These parameters can be preset as early as at the product design stage in the CAD system or can be readily available in standard libraries of the CAD system used (for example, fixture elements or materials with standard specifications).

Each characteristic of the 3D model can be described in the reference book for later use of the values of these characteristics in various calculations. Specification

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*3D model properties described in plain reference book*

As a result, all information on each constituent part of the product will be described in Clobbi.

Thanks to automatic upload of the initial data, CAD – ERP systems integration yields dramatic saving of time spent on handling planning and accounting tasks.

Be sure to use the integration of Clobbi with CAD systems to quickly get data for your production needs.

**Please see sections of Clobbi production management:**

- Engineering and Manufacturing preproduction planning
- Planning of production from product output to workers shift tasks
- Production records and flow of parts, semi-finished products, finished products
- Clobbi manufacturing solutions

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