



# ECAD Library Database – Altium Designer Scope : Database Library (".DbLib")

### Application : Components Library Management

ECAD stands for electronic computer-aided design. Libraries are containers to store components in. Components may consist of schematic symbols, PCB footprints (shapes), simulation models and a lot of other parameters, like MPN (Manufacturer Part Number), manufacturer, value, etc.

Components Library Management is to ensure every team has access to the correct component information on-demand. This helps designers to stay productive and focus on designing great new products, Components engineers to handle the up-to date list with revision history of components and Procurement team to maintain the sourcing of components based on the stock availability.





# Client's situation before the project commencement

The client used multiple library files with different standards to cater to the diverse design needs with multiple design teams. They kept several spreadsheets to document details about each part and its parameters. At the beginning, there weren't any issues among different teams, such as components engineering and procurement.

Over time, managing the library became challenging as the number of files and spreadsheets increased. It became a hectic task to collaborate with multiple teams. All of the teams faced struggles in handling these files efficiently.

Pros:

- Versatility
- Adaptability
- Customization
- Detailed Information



### Cons:

- Risk of Inconsistency
- Complexity Over Time
- Coordination Challenges
- Increased Overhead



An ISO-27001 ISN Certified Compan



# Database Library - SoW

**Challenges** 

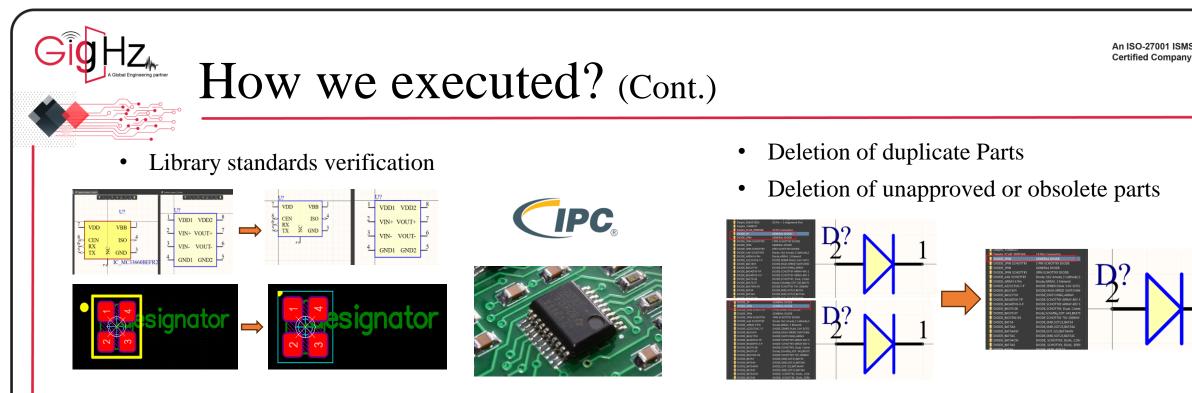


- Multiple standalone library files
- Multiple spreadsheet for the component details
- Own variant of Library Design Standards
- BOM Management
- Part duplication
- Unapproved or Obsolete parts
- Collaboration among different teams
- Manage vendor part data and relationships

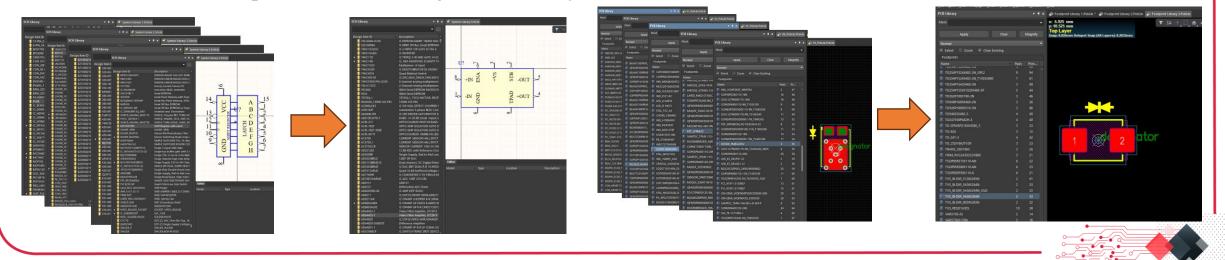


- Centralized Database Library
- Simultaneous access to Different Design teams
- Relationship between different teams
- Access to Design centres at multiple locations
- Ensure Consistency





• Combine multiple libraries into organized library





Database Library

Components Database.DbLit

Capacitors Symbol:Footprint Map "capacitor\_db.xls"

Resistors

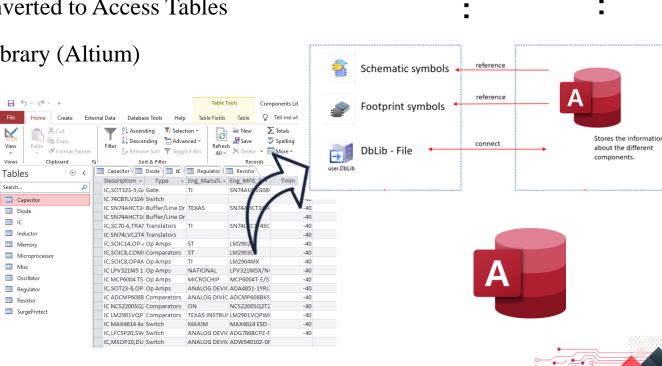
Symbol:Footprint Map

resistor db.xls

# How we executed? (Cont.)

- Split the components into types (capacitor, resistor, IC, etc.)
- Added common and specific parameters for every type
- Introduced Plm Part Numbers for ease identification of components
- Component details in the spreadsheet are converted to Access Tables
- Creation of Access database and Database Library (Altium)

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15 16 17 18 19 20	9 REG 10 REG 11 REG 12 REC 13 REC 14 REC 15 REC <sup>0</sup> 16 REC <sup>1</sup> 17 REC <sup>3</sup> 18 REC <sup>3</sup>	A A PLM Path 2 R5_00001 R5_00002 A R5_00002 A R5_00005 B R5_00005 B R5_00005 B R5_00005 B R5_00005 B R5_00005 B R5_00001 B R5_00011	8 2 Description RIS 0,002 OHM 15 JW RIS 0,002 OHM 15 JW RIS 0,002 OHM 15 JW RIS 0,002 OHM 15 JW RIS 10,0 KOHM 0,15 RIS 10,0 KOHM 15 JW RIS 0,002 OHM 35 JW RIS 0,002 OHM 35 JW	Type     1637 Power     1639 Precisi     Thick F     1/10 (Thin Fi     1/10 (Thin Fi     1/16 (Thin Fi     1/16 (Thin Fi     1/16 Thin Fi     1/16 (Thin Fi     1/16 (Thi	C + Eng Metal Strip Ion ISA ilm VIS ilm VIS ilm/Anti Suge Iom KO ilm VIS ilm PAA ilm KO ilm KO ilm XAS	BELLHÜTTEN HAY VASONIC HAY HAY VASONIC A	E Eng_MFG_Part = EV5-M-R0005-1.0 GCCV12051K00FKEB ERUBLCR0180 MC50402M01002BE ERU51H1ETTIP10022 ERU51A501000PKE ERU51A501000PKE ERU51A501001V BC73211CTP5 CK55-000-2K	F Value = 0.01 Ohm 0.5 mOhn 1. K 0.018 Ohn (10. K 10. K 10. K 10. K 10. K 10. K 10. K 10. K 10. K 10. Ohm 10. Ohm	6 Toleras * Por 1.5 3.9 1.5 0.2 5.5 1.9 5.5 1.9 0.1% 0.0 1.5 0.5 0.1% 0.0 1.5 0.1 0.5% 0.1 1.5 0.1 1.5 0.1 0.5% 0.1 1.5 0.2 1.5 0.2	H I weer Tanin V SW SW 63W W 63W W 63W W 63W W 63W W 63W	• Tana -45 -55 -55 -55 -55 -55 -55 -55	1 κ ax + Packag 170 1930 155 1206 155 1206 155 1020 125 0402 155 0402 155 0402 155 0402 155 0402 155 0402 155 0402 155 0402	M     Qualifie -     AEC 0200     AEC 0200     Q200     Q200     Q200     Q200	N           Symbol → Sym           RES         Sym	0 bol Ubrary.Schüb bol Library.Schüb bol Library.Schüb bol Library.Schüb bol Library.Schüb bol Library.Schüb bol Library.Schüb bol Library.Schüb bol Library.Schüb	Footprint RES_WSL1 RESC_BV5 RESC(1200 RESC(1000 RESC(1000) RESC(1000) RESC(1000) RESC(1000) RESC(1000) RESC(1000) RESC(1000) RESC(1000)	L-A-R (5)3216X60N (5)350X75N (2)1005X40N (2)1005X40N (2)1005X40N (2)1005X40N (2)1005X40N (2)1005X40N	Footprint
15 16 17 18 19 20	9 REG 10 REG 11 REG 12 REC 13 REC 14 REC 15 REC <sup>0</sup> 16 REC <sup>1</sup> 17 REC <sup>3</sup> 18 REC <sup>3</sup>	A PLM PartN 2 855 000001 3 855 000002 4 855 000004 6 855 000004 6 855 000004 6 855 000004 10 855 000009 11 815 000001 10 855 000012 10 855 000002 10 855 00002 10 855 000002 10 855 00002 10 855 00002 10 855 00002 10 855 00002 10 85	8	Type     Sh37 Power     Sh37 Power     W 39 Precisi     Thick F     W 121 Thick P     Sh32 Power     Sh42     Sh42     Sh42     Sh42     Thick P     Thick P     Thick P     Thick P     Thick P     Thick     Thic	C + Eng Metal Strip Ion ISA Ilm VIS Ilm VIS Ilm/Anti Surge Ilm VIS Ilm VIS Ilm ASJ Ilm ASJ Ilm ASJ Ilm XAS Ilm XAS	BELLHÜTTEN HAY VASONIC HAY A HAY VASONIC A EEO A A	E Eng_MFG_Part EV5-M-R005-1.0 CRCV1205400FK2 EN85C/R008U MC504020M010028E RV73HLETTP100282 R073HLETTP100282 R074027FP5 R074027FP5002F R074HLETTP1002F	F Value = 0.01 Ohm 0.05 mOhm 1. K 0.018 Ohm 10. K 10. K 10. K 10. K 10. K 10. Ohm 10. Ohm 10. Ohm 10. Ohm 10. Ohm 10. Ohm	0           Tolerasi *         Por           1.%         3.9           1.%         5.9           1.%         0.2           1.%         0.2           1.%         0.1           0.5%         0.1           0.5%         0.1           1.%         0.1           1.%         0.1           1.%         0.1           1.%         0.1           1.%         0.1           1.%         0.1           1.%         0.1	H I I I I I I I I I I I I I I I I I I I	▼ Tma 465 -35 -35 -35 -35 -35 -35 -35 -3	κ         π         Packag           170         1637         170         1637           170         155         1206         155         125         1206           155         125         0805         135         0802         155         0803           155         0805         135         0802         155         0803         155         0802         155	M           Qualific - Qualific - AEC 0200           AEC 0200           AEC 0200           Q200	N           Symbol + Sym           RES         Sym	bol_bol bol_bol_bol_bol_bol bol_bol_schub bol_bol_schub bol_bol_bol_schub bol_bol_bol_schub bol_bol_schub bol_bol_schub bol_bol_schub bol_bol_schub bol_bol_schub bol_bol_schub bol_bol_schub	Footprint RIS_WSL1 RISC_WSL1 RISC_UVSL RISC(U00 RISC(000) RISC(000) RISC(000) RISC(000) RISC(000) RISC(000) RISC(000) RISC(000) RISC(000) RISC(000) RISC(000)	L-A-R 6)3216X60N 0)2500X75N 2)1005X40N 5)2012X70N 3)1608X55N 3)1608X55N 2)1005X40N 2)1005X40N 2)1005X40N 2)1005X40N 2)1005X40N	Footprint
15 16 17 18 19 20	9 REG 10 REG 11 REG 12 REC 13 REC 14 REC 15 REC <sup>0</sup> 16 REC <sup>1</sup> 17 REC <sup>3</sup> 18 REC <sup>3</sup>	A           1         PLM_PartN           2         R15_00001           1         R15_00001           1         R15_00003           3         R15_00004           6         R15_00006           8         R15_00006           8         R15_00006           8         R15_00006           10         R15_00007           11         R15_000011           12         R15_000011           13         R15_000013           15         R15_000013           16         R15_000013	8      Description     RES.0,012.000,155.300     RES.0,002.000,155.300     RES.0,002.000,155     RES.0,002.000,150     RES.0,002.000,150     RES.1,0,002.000,150     RES.1,0,002.000,150     RES.1,0,002.000,150     RES.1,0,002.000,150     RES.1,0,002.000,150     RES.1,0,002.000,150     RES.1,0,002.000,150     RES.1,0,002.000,150     RES.1,002.300,150     RES.1,002.300,150     RES.1,002.300,150     RES.1,002.300,150     RES.1,002.300,150	Type     S537 Power     S537 Power     S537 Power     Thick F     Thick F     S121 Thick F     S121 Thick F     S120 CThin Fil     S120 CThin Fil     S120 CThin Fil     S120 CThink F     Thick F     Thick F     Thick F     Thick F     Thick F     Thick F	C Metal Strip Im ViS Im PA Im ViS Im KO Im KO	BELLHÜTTEN HAY WASONIC HAY A HAY WASONIC A X EO A A	E Eng_MFG_Part EV5-M-R005-1.0 OR(V)205300FKEB ENBIC/R0380 MKS04034000028E ENAJAED1401 KN72H1ETP100282 CHS0405740502 KN72H1ETP10027 KN72H1ETP10027 KN72H1ETP10027	F Value = 0.01 Ohm 0.5 mOhn 1.K 0.018 Ohm 10.K 10.K 10.K 3.4K 0. Ohm 10. Ohm 10. Ohm 10. Ohm 10. Ohm 10. Ohm	6 <b>Tolerar</b> + <b>Po</b> 1.5 1.9 1.5 2.9 1.5 0.2 5.5 1.9 0.15 0.0 1.5 0.0	H I I I I I I I I I I I I I I I I I I I	+ Tma 45 -35 -35 -35 -35 -35 -35 -35 -3	€         €         Composition           1 <t< td=""><td>M           qualifie -           AEC 0200           AEC 0200           AEC 0200           AEC 0200           Q200           AEC 0200           Q200           No-Q           Q200           Q200           Q200           Q200           Q200</td><td>N           Symbol         *           R05         Sym           R05         Sym</td><td>bol_bol _bol _bol _bol _bol _bol _bol _b</td><td>Footprint RIS_WSL1 RISC_WSL1 RISC_UN0 RISC(040) RISC(040) RISC(040) RISC(040) RISC(040) RISC(040) RISC(040) RISC(040) RISC(040) RISC(040) RISC(040)</td><td>L-A-R 6)3216X60N 6)3216X75N 2)105X40N 2)105X40N 2)105X40N 2)105X40N 2)105X40N 2)105X40N 2)105X40N 2)105X40N 2)105X40N 2)105X40N</td><td>Faotprint     Footprint     Footprint</td></t<>	M           qualifie -           AEC 0200           AEC 0200           AEC 0200           AEC 0200           Q200           AEC 0200           Q200           No-Q           Q200           Q200           Q200           Q200           Q200	N           Symbol         *           R05         Sym	bol_bol _bol _bol _bol _bol _bol _bol _b	Footprint RIS_WSL1 RISC_WSL1 RISC_UN0 RISC(040) RISC(040) RISC(040) RISC(040) RISC(040) RISC(040) RISC(040) RISC(040) RISC(040) RISC(040) RISC(040)	L-A-R 6)3216X60N 6)3216X75N 2)105X40N 2)105X40N 2)105X40N 2)105X40N 2)105X40N 2)105X40N 2)105X40N 2)105X40N 2)105X40N 2)105X40N	Faotprint     Footprint
15 16 17 18 19 20	9 REG 10 REG 11 REG 12 REC 13 REC 14 REC 15 REC <sup>0</sup> 16 REC <sup>1</sup> 17 REC <sup>3</sup> 18 REC <sup>3</sup>	A PLM PartN 2 R5_00001 3 R5_00004 4 R5_00005 5 R5_00006 6 R5_00006 6 R5_00006 9 R5_00006 10 R5_00006 10 R5_00006 11 R5_00007 11 R5_00011 13 R5_00012 14 R5_00012 14 R5_00012 15 R5_00012 15 R5_00012 16 R5_00012 16 R5_00012 16 R5_00012 17 R5_00016 17 R5_000016 17 R5_00016 17 R5_00016 17 R5_00016 17 R5_00006 17 R5_0006 17 R5_006 17 R5_00	8 2 Description 885.0,020 OHM 155 JUN 885.0,020 OHM 156 JUN 885.1,000 OHM 156 JUN 885.1,000 OHM 156 JUN 885.1,000 OHM 156 JUN 885.1,000 OHM 156 JUN 885.0,000 OHM 156 JUN 885.0,000 OHM 156 JUN 885.0,000 OHM 156 JUN 885.0,000 JUN 156 JUN	Type     Y 3637 Power     Y 3637 Power     Y 3637 Power     Thick F     W 121 Thick F     Y 121 Thick F     Y/16 (Thin Fi     Z/16 (Thin Fi     Thick     F     Thick     F     Thick     F     Thick     F     Thick     Thick     Thick     T     Thick     F     Thick     F	C E Eng Metal Strip on ISA ilm VIS ilm PAA im VIS ilm KO ilm KO ilm KO ilm KO ilm KO ilm KO	BELLHÜTTEN HAY KASONIC HAY KASONIC KAY KASONIC A KA KA KA KA KA	E Eng_MFG_Part BV5-M-R005-1.0 CRCV12054007642 BR052/R005U MC50402M050028E RV21HLETT9100282 RC721HLETT910028 RC721HLETT91000F RC721HLETT91000F RC721HLETT91000F RC721HLETT91000F RC721HLETT91000F	F Value = 0.01 Ohm 0.5 mOhn 1. K 0.018 Ohn (10. K 10. K 10. K 10. K 10. Ohm 10. Ohm 10	0           Tolerat         Poi           1.%         1.%           1.%         1.%           1.%         5.%           1.%         0.0           1.%         0.0           1.%         0.0           1.%         0.0           1.%         0.0           1.%         0.0           1.%         0.0           1.%         0.0           1.%         0.0           1.%         0.0           1.%         0.0           1.%         0.0           1.%         0.0           1.%         0.1           1.%         0.1	H I I I I I I I I I I I I I I I I I I I	+ Tma -45 -35 -35 -35 -35 -35 -35 -35 -3	κ         κ           170         1637           170         1637           170         1637           170         1537           155         125           155         125           155         0603           155         0603           155         0602           155         0602           155         0602           155         0602           155         0602           155         0602           155         0602           155         0602           155         0602           155         0602           155         0602           155         0602           155         0602           155         0602           155         0602           155         0602           155         0602           155         0602	M           Qualifie - Alic 0200           Alic 0200           Alic 0200           Alic 0200           Qualifie - Q200           Alic 0200           Q200	N           Symbol + Sym           Atts         Symbol + Sym           Atts         Sym           Rts         Sym	0 bol_blat_with bol_blatary.Schib bol_blatary.Schib bol_blatary.Schib bol_blatary.Schib bol_blatary.Schib bol_blatary.Schib bol_blatary.Schib bol_blatary.Schib bol_blatary.Schib bol_blatary.Schib bol_blatary.Schib bol_blatary.Schib bol_blatary.Schib	Footprint e(5_WSL) RESC_8VS RESC(1204 RESC(1040) RESC(1040) RESC(1040) RESC(1040) RESC(1040) RESC(1040) RESC(1040) RESC(1040) RESC(1040) RESC(1040) RESC(1040)	L-A-R ()322500X75N ()2500X75N ()2500X75N ()2003X40N ()2003X40N ()2003X40N ()2003X40N ()2003X40N ()2005X40N ()2005X40N ()2005X40N ()2005X40N ()2005X40N ()2005X40N ()2005X40N	Footprint, Footpri
15 16 17 18 19 20	9 REG 10 REG 11 REG 12 REC 13 REC 14 REC 15 REC <sup>0</sup> 16 REC <sup>1</sup> 17 REC <sup>3</sup> 18 REC <sup>3</sup>	A           1         PLM_PartN           2         R15_00001           1         R15_00001           1         R15_00003           3         R15_00004           6         R15_00006           8         R15_00006           8         R15_00006           8         R15_00006           10         R15_00007           11         R15_000011           12         R15_000011           13         R15_000013           15         R15_000013           16         R15_000013	8 2 Description 885.0,020 OWN 155 JUN 885.0,000 OWN 156 JUN 885.1,000 OWN 156 JUN 885.1,00 OWN 0,156 885.1,00 OWN 0,156 JUN 885.1,00 OWN 0,156 JUN 885.0,000 OWN 156 JUN	Type     Your      Yo	C E Eng Metal Strip Ion GA Stilm VS Film/Anti Surge Im KOA Mm PAA Mm PAA Mm PAA Mm PAA Mm KOA Him KOA Him KOA Him KOA Him KOA Him KOA	BELLHÜTTEN HAY A ASONIC HAY A AAY KASONIC A JEO A A A A A A A A A A	E Eng_MFG_Part EV5-M-R005-1.0 OR(V)205300FKEB ENBIC/R0380 MKS04034000028E ENAJAED1401 KN72H1ETP100282 CHS0405740502 KN72H1ETP10027 KN72H1ETP10027 KN72H1ETP10027	F Value - 0.01 Ohm 0.5 mOhn 1. K 0.018 Ohn 10. K 10. K 10. K 10. K 0. Ohm 10. Ohm 10. Ohm 10. Ohm 10. Ohm 10. Ohm 10. K 108, K 109, K 109, K 109, K	6 <b>Tolerar</b> + <b>Po</b> 1.5 1.9 1.5 2.9 1.5 0.2 5.5 1.9 0.15 0.0 1.5 0.0	H I I weer (= Tmin V V SSW V SSW V SSW W W SSW W W W W W W	+ Tma 45 -35 -35 -35 -35 -35 -35 -35 -3	€         €         Composition           1 <t< td=""><td>M           qualifie -           AEC 0200           AEC 0200           AEC 0200           AEC 0200           Q200           AEC 0200           Q200           No-Q           Q200           Q200           Q200           Q200           Q200</td><td>N           Symbol         *           R05         Sym           R05         Sym</td><td>bol_bol _bol _bol _bol _bol _bol _bol _b</td><td>Footprint RES_WSL1 RESC_US1 RESC(1204 RESC(1204 RESC(1040) RESC(1040) RESC(1040) RESC(1040) RESC(1040) RESC(1040) RESC(1040) RESC(1040) RESC(1040) RESC(1040) RESC(1040)</td><td>L-A-R 6)3216X60N 6)3216X76N 2)2503X40N 5)2012X70N 2)105X40N</td><td>Footprint Lib Footprint Footpri</td></t<>	M           qualifie -           AEC 0200           AEC 0200           AEC 0200           AEC 0200           Q200           AEC 0200           Q200           No-Q           Q200           Q200           Q200           Q200           Q200	N           Symbol         *           R05         Sym           R05         Sym	bol_bol _bol _bol _bol _bol _bol _bol _b	Footprint RES_WSL1 RESC_US1 RESC(1204 RESC(1204 RESC(1040) RESC(1040) RESC(1040) RESC(1040) RESC(1040) RESC(1040) RESC(1040) RESC(1040) RESC(1040) RESC(1040) RESC(1040)	L-A-R 6)3216X60N 6)3216X76N 2)2503X40N 5)2012X70N 2)105X40N	Footprint Lib Footprint Footpri



Symbols

Footprints



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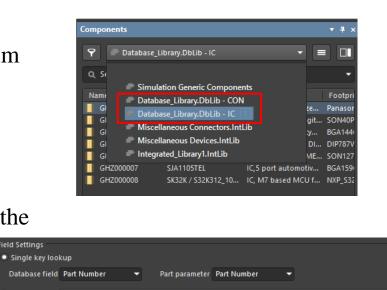


### **Database Library Connection in Altium**

- Created connection between Access.mdb and Alitum
- Link and Foreign keys for the connection
- Updated Field mappings
- Required components are fetched through the

### components panel as per the design needs

Microsoft Access	Path Db_Lib_Source\Database_Library.mdb	Browse
Use Connectior	n <u>S</u> tring Schema Name ✓ Store Path Relative to Databa	se Library
🔍 Use Data <u>L</u> ink F	ile	
<u>C</u> onnected	<u>A</u> dvanced	
ield Settings		
	up	
Field Settings Single key look Database field	up Description    Part parameter Description	



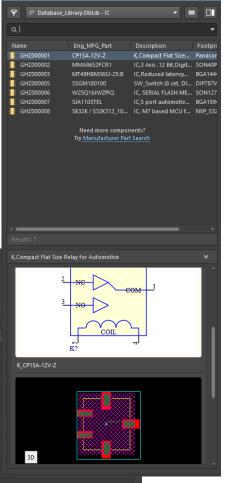
Update Values

Default

Add To Design

Default

Visible



Field Mappings Table Browser

Field Settings

Where

Database Field Name

Manufactuer P/N

🥺 Current Rating

Description Manufactuer

Package

叉 Packaging

ᠵ Price

叉 Type1

ᠵ Type2

ᠵ Part Number

🔜 Voltage-Rated

Design Parameter

Current Rating

Description

Manufactuer

Package

Price

Type1

Type2

Voltage-Rated

Packaging

Manufactuer P/N



### GigHZ Gibbel Engineering pather

# How we executed? (Cont.)

**Component Library Management – (Cloud Setup – PTC Integrity)** 

Database Library maintained at centralized location (preferable – Cloud Server) for all the team for the ease of usage/application.

- Sandbox in the cloud (PTC Integrity Cost effective cloud server)
- Push the Library and Access files and Database Library files into PTC
- Update the Library files as per usage by the respective teams.
- Synchronize every time before the application (to make it up-to date files)

### S ptc () integrity Schematic symbols Files are synced to PTC 2 ptc @ centralized location () integrity Footprint symbols Access mdb File Revision updates and new files of new components are **Cloud Storage to** DbLib - File **I**→ also synced and retrieved save the filles user.DbLib Connect\* \* Files synced from PTC before connect with Altium ALTIUM DESIGNER





GLOBAL\_SourceViewset ViewSet - Integrity 11

GLOBAL\_IntegrityViewS

Projects X

Regular Variant Build

⊕ \_ c:\ PTC\ AdvTrair

. c:\\_PTC\\_GlobalPr

. c:\\_PTC\\_GlobalTc

E C:\\_PTC\\_TAP\pro

## How we executed?

L\_TestMgmViewset 🗍 GLOBAL\_RegMgmViewset 🗍

**Component Library Management – (Cloud Setup – PTC Integrity)** 

### 😒 ptc 🇊 integrity"

🎦 👻 Item

PTC Integrity Sandbox Setup – With Projects

File ViewSet Project Sandbox Member Change Package Format Edit Item Query Docum

View My Sandboxes

View Sandbox

Recent

Create...

Import...

Retarget

Drop

Views

Open Sandbox...

#### :working Legend Normal Working File/Revision 2 1.3 Pending Revision Member Revision 1.2 Merge Line Merge Out Line 1.1 Branched Revision

**Revision History** 

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# × Vvorking/Pending Revision Working/Member Revision

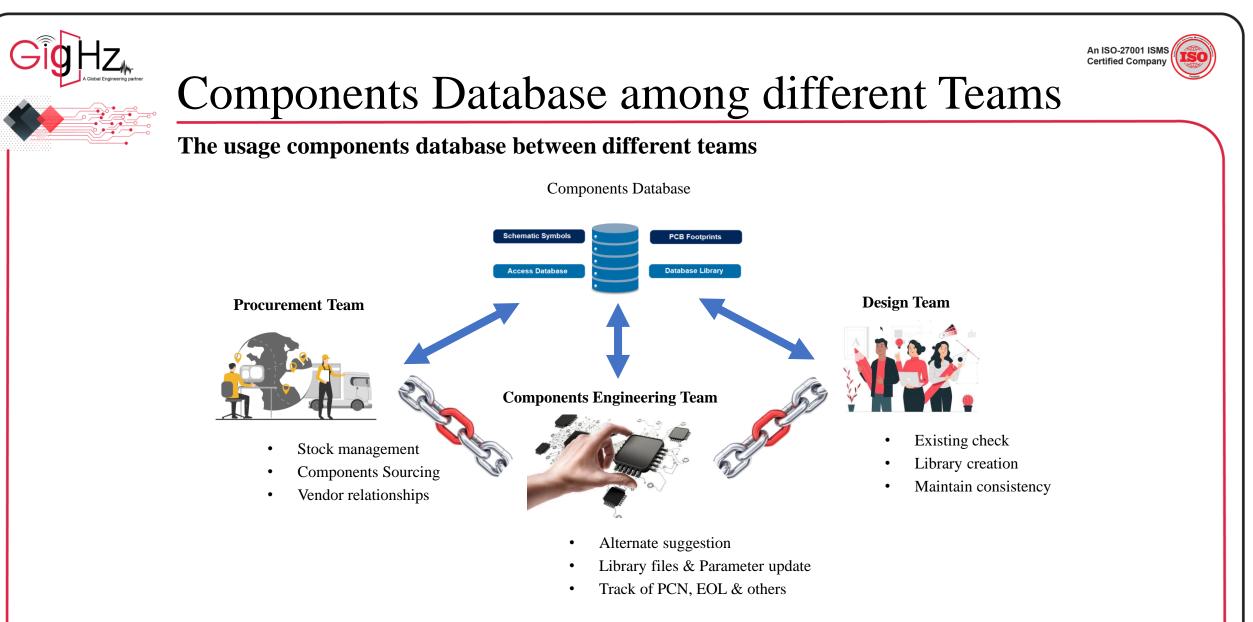
### Altium – DbLib & **Components Panel**

An ISO-27001 ISMS

Certified Company

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Q, St Eng_ SZ 11 N- B4 E2 11 LC	<ul> <li>Simulation Generic Components</li> <li>SandboxAccess.DbLib - BPTransistor</li> <li>SandboxAccess.DbLib - Capacitor</li> <li>SandboxAccess.DbLib - Diode </li> <li>SandboxAccess.DbLib - ElectroMech</li> <li>SandboxAccess.DbLib - FET</li> <li>SandboxAccess.DbLib - IC</li> <li>SandboxAccess.DbLib - Inductor</li> <li>SandboxAccess.DbLib - Memory</li> <li>SandboxAccess.DbLib - Microprocessor</li> </ul>	N V6 V6 V6 0 X1
HI B4 SE LH LH BY	<ul> <li>SandboxAccess.DbLib - Misc</li> <li>SandboxAccess.DbLib - Oscillator</li> <li>SandboxAccess.DbLib - Regulator</li> <li>SandboxAccess.DbLib - Resistor</li> <li>Miscellaneous Connectors.IntLib</li> <li>Miscellaneous Devices.IntLib</li> </ul>	x1 N N





Few steps that are advised to each team member to make "Components Library Management" as a smoother and more streamlined process.



# **Procurement Team Process**

Everyone in different Team use the files from cloud as the primary source for files. In case any updates are made locally (from files downloaded from the server), the corresponding updated files will be synchronized with the cloud server to ensure the most current data. This enables easy access for other teams as well.

### **Procurement Team**

- Check component availability based on the Bill of Materials (BOM) information.
- If a component is unavailable, generate a new PLM Part Number based on the component category.
- Periodically update stock information for all parts in the database.
- Source the components as needed.
- Manage vendor part data and relationships.

#	Mfg Part No	Mfg Name	Description	Case/Packaging	Count/BOARD, pcs.
1	CR2032 PANASONIC	Panasonic Battery	3V 20 X 3.2 MM 200mA		1
2	C3225C0G1H473J	TDK CORPORATION	CAP CER 47000PF(0.047uf) 50V C0G 5% 1210	1210	1
3	C0805C104K4RACTU	Kemet	CAP 10UF 16V CERAMIC X7R 0805	805	32
4	ERJ-6GEYJ102V	Panasonic - ECG	RES 1.0K OHM 1/8W 5% 0805 SMD	SMD SMT 0805	8
5	9C08052A1002JLHFT	Yageo Corporation	RES 10K OHM 1/8W 5% 0805 SMD	SMD SMT 0805	37
6	9C08052A4701JLHFT	Yageo Corporation	RES 4.7K OHM 1/8W 5% 0805 SMD	SMD SMT 0805	16
7	ERJ-8ENF2490V	Panasonic - ECG	RES 249 OHM 1/4W 1% 1206 SMD	1206	12
8	CRCW08051K20JNTA	vishay/ dale	1/8WATT 1.2KOHMS 5%	SMD SMT 0805	1
9	RC0805JR-075K6L	Yageo Corporation	RES 5.6K OHM 1/8W 5% 0805 SMD	SMD SMT 0805	1
10	ERJ-6GEYJ302V	Panasonic - ECG	RES 3.0K OHM 1/8W 5% 0805 SMD	SMD SMT 0805	1
11	MCR10EZHF1472	Rohm	RES 14.7K OHM 1/8W 1% 0805 SMD	SMD SMT 0805	1
12	RC0805FR-0720KL	yageo corporation	RES 20.0K OHM 1/8W 1% 0805 SMD	SMD SMT 0805	1
13	9C08052A3003JLHFT	vageo corporation	RES 300K OHM 1/8W 5% 0805 SMD	SMD SMT 0805	1

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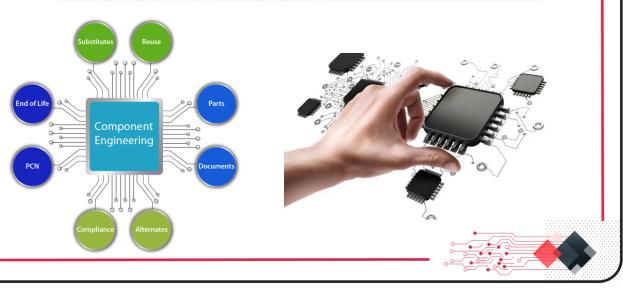


# **Components Engineering Team Process**

### **Components Engineering Team**

- Review the new PLM Part Numbers created by the procurement team
- Suggest alternate component details for the newly created Plm Part Number components.
- Add essential parameter details of the component in the database.
- Rise a request to the design team to create the Library, for the mapping of symbol, footprint and other files to the respective component.
- Update the Library files (for the request) from the Design to the Cloud server.
- Keep track of PCN, EOL, redundancy, obsolete information and compliance status for the components in the database.

	RESISTOR						No				
	NTC ~					MPN MF	NCP18XH103F				
							Murata				
Comment						Description	RES NTC SMD 0603 10K +/- 1%, 0.1 W, -40 to +125°C			¢,	
eneric Parameters Supp	liers										
Inductance (L)		~	Tolerance	1%	~	Voltage C	lamping		Orientation		~
Capacitance (C)		~	Operating Temperature	-40 to +125°C	~	Voltage F	orward		Current Reverse Leakage		1
Resistance (R)	10K	~	Temperature Coefficient	3434	Y	Voltage D	C Reverse		Number Of Turns		
Voltage Rating DC	5V	~	Dielectric		~	Reverse R	ecovery Time		Adjustment Type		
Volatage Rating AC	1	~	Impedance (Z)		ý.	Gender		×	Ripple Current		
Current (I)		~	Ofactor (Q)			Plating		~	Shielded		~
Current Rating		~	Color		v	Circuits		1	Voltage Reverse Standoff		1
PowerRating (P)	0.1W	~	Millicandela		×	Bits			Voltage Breakdown		i i
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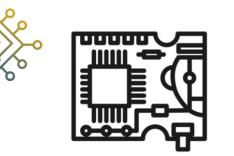




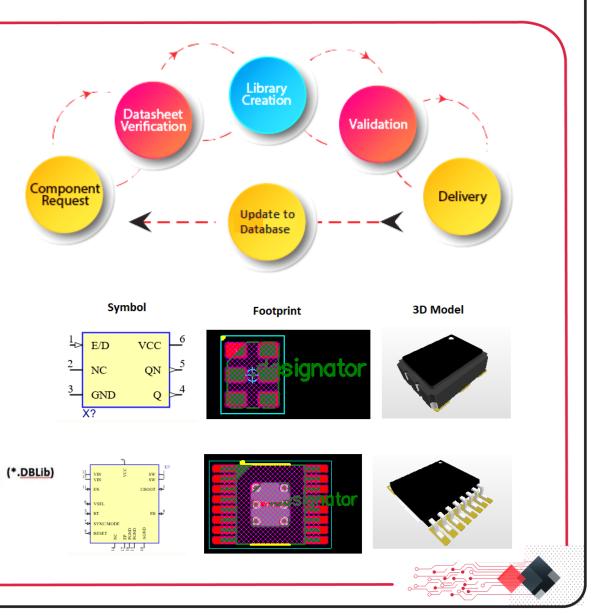
## Design Team Process

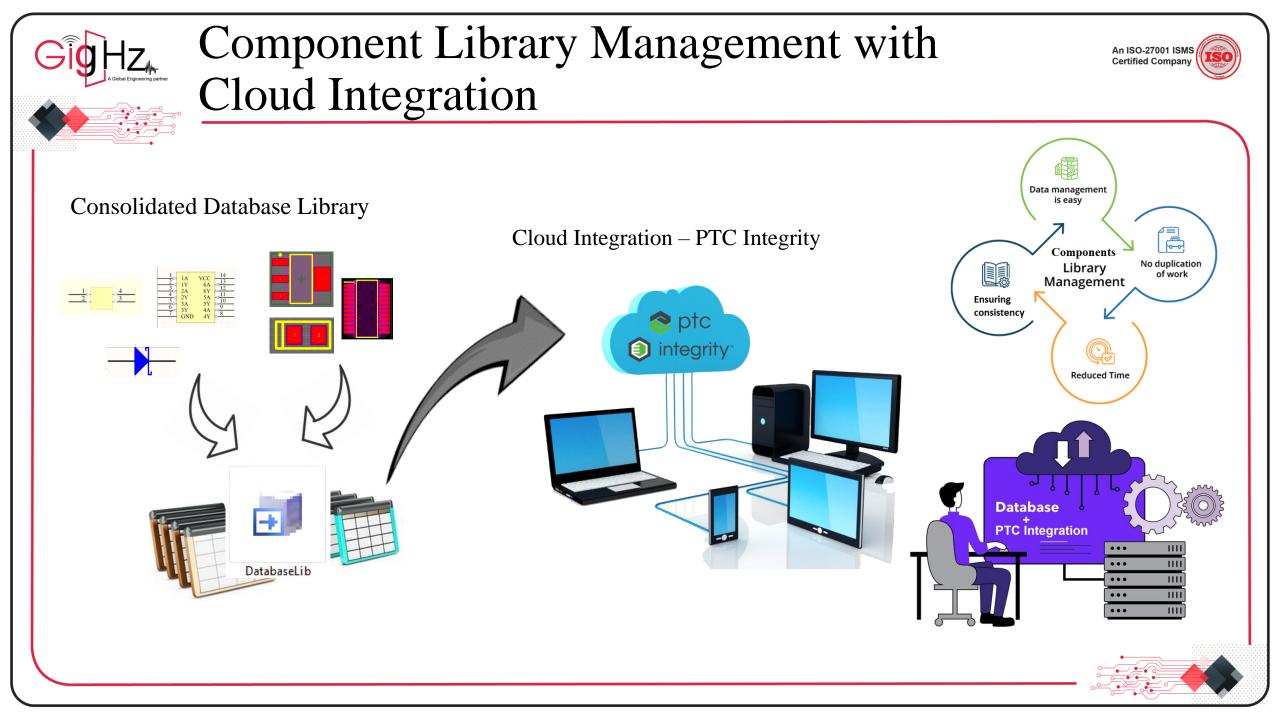
### **Design Team**

- Check for the existing Symbol, Footprint that can match with the requested component.
- Create required Library files Symbol and Footprint.
- Use Library design standards with best practices and IPC.
- Share the library details to the component Engineer with Library files.
- Ensures data consistency across multiple ECAD tools









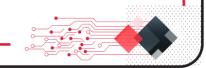




# **Customer Testimonial**

Delighted to share a satisfied client's testimonial that serves as strong evidence of success and impact of the Components Library Management.

"We handed them the task of managing multiple libraries, numerous spreadsheets filled with component details, and libraries with variants of library standards. They not only satisfied our requirements, it was even better than our expectations. They efficiently streamlined our Library Management processes in cost-effective manner, that reduced errors, and ensured consistency across our projects. The capability to effortlessly update and share components across the team has saved us countless hours. Furthermore, their dedication to punctual deliveries has reinforced our trust in their capacity to manage demanding projects."







We provided the client with a Library Database (DbLib) that exactly fit their requirements. Displayed our strong commitment to delivering high-quality work and our technical expertise.

Conclusion

Our partnership goes beyond the technical aspects; it's about streamlining the Library Management process by combining our proficiency with a deep understanding of the client's needs.

We're committed to delivering top-notch Library Management services, which shows that we're good at what we do and can be relied upon to get exceptional results.

