

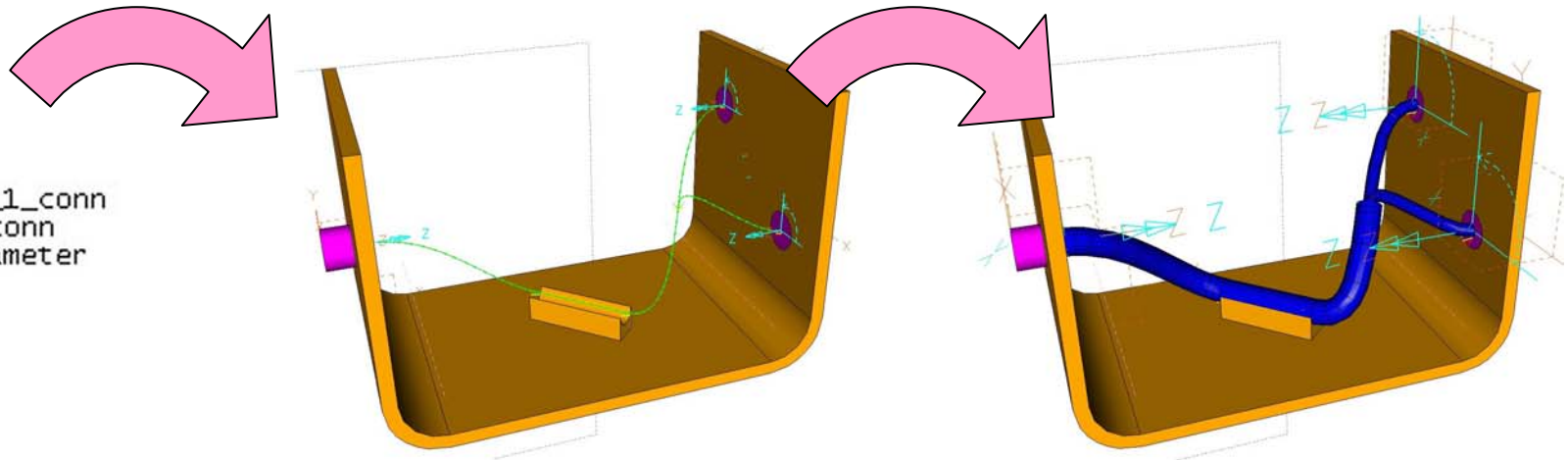
Harness Design

A CAD tool for cable routing

Basic steps in I-DEAS Harness Design:

1.	Create wire list	ASCII editor or export from other programs
2.	Create connectors, supports and chassis	I-DEAS Modelling task
3.	Create harness assembly group	I-DEAS Assembly task
4.	Create wires	I-DEAS Harness Design task
5.	Connect wires	I-DEAS Harness Design task
6.	Assign connectors	I-DEAS Harness Design task
7.	Align connectors	I-DEAS Harness Design task
8.	Write reports, export processed wire list	I-DEAS Harness Design task / ASCII editor

```
%wire wire_id endp_1_conn
endp_1_pin endp_2_conn
endp_2_pin wire_diameter
w1, CON1,1, CON2,1, 5
w2, CON1,1, CON3,1, 5
```



XFEL Pulse Cable routing

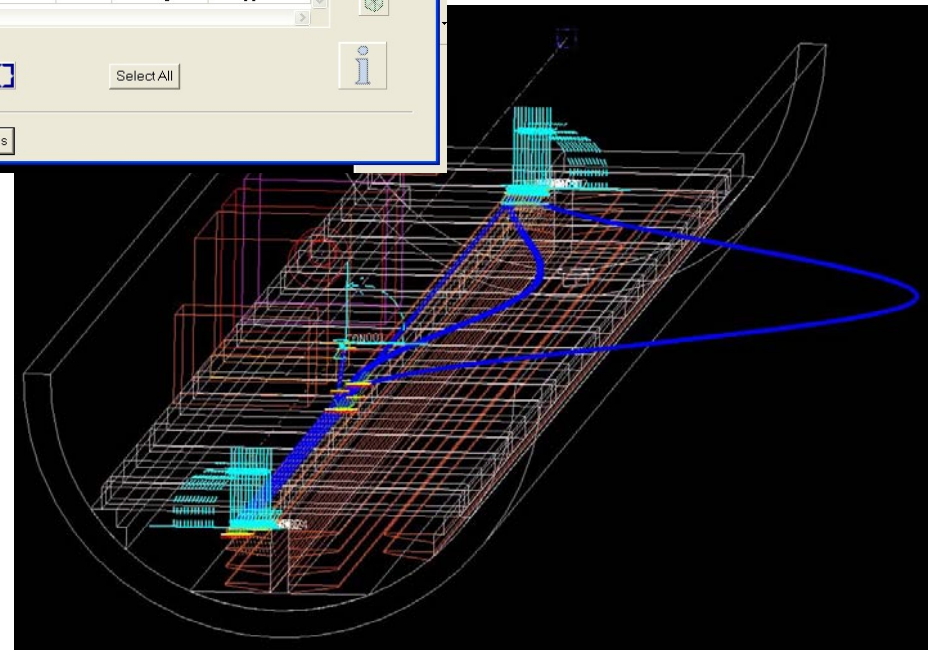
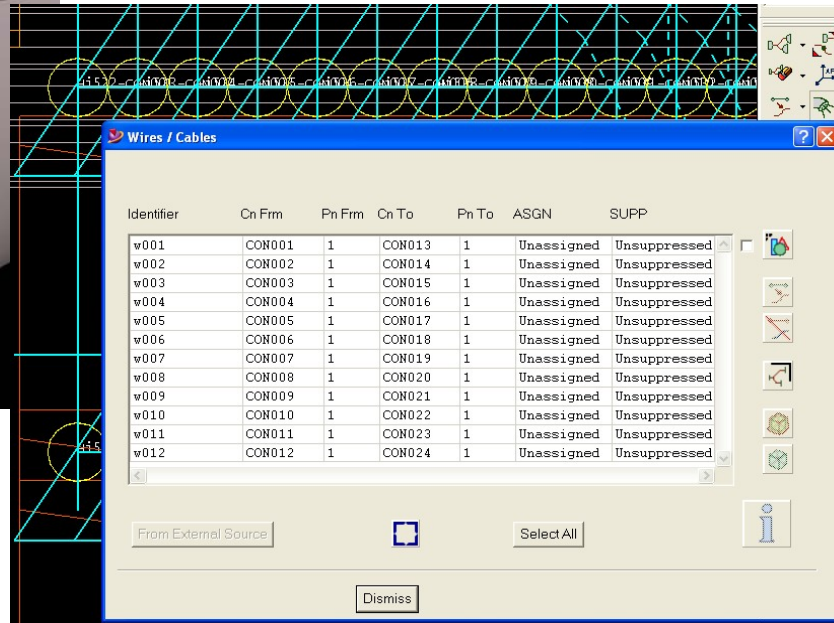
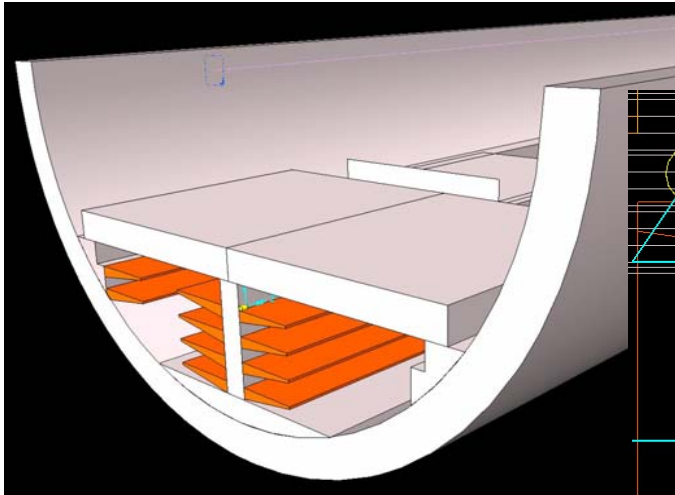
Basic wire list (imported):

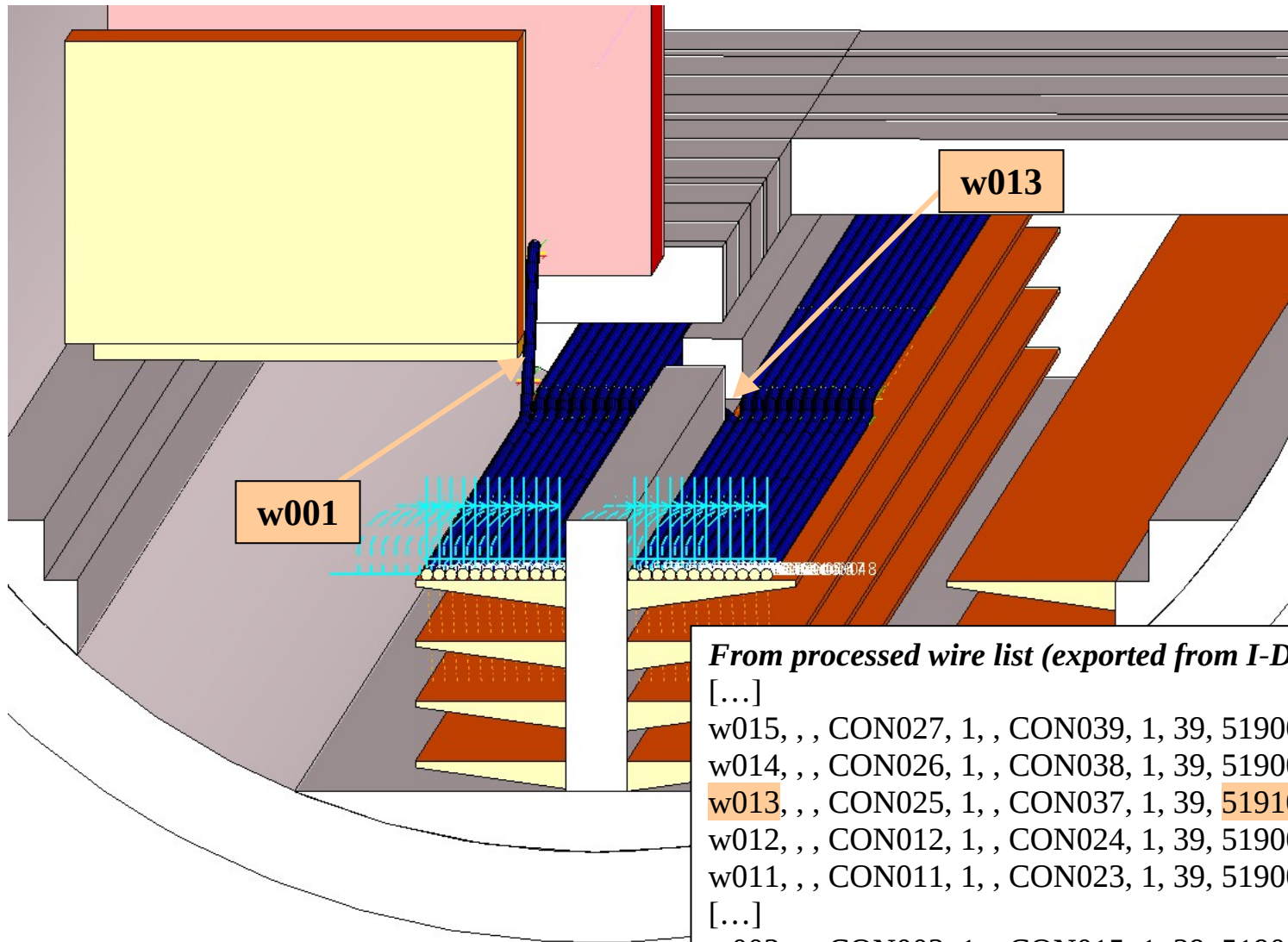
```
%wire wire_id endp_1_conn endp_1_pin endp_2_conn endp_2_pin wire_diameter
w001,CON001,1,CON013,1,39
w002,CON002,1,CON014,1,39
w003,CON003,1,CON015,1,39
w004,CON004,1,CON016,1,39
w005,CON005,1,CON017,1,39
w006,CON006,1,CON018,1,39
w007,CON007,1,CON019,1,39
w008,CON008,1,CON020,1,39
w009,CON009,1,CON021,1,39
w010,CON010,1,CON022,1,39
w011,CON011,1,CON023,1,39
w012,CON012,1,CON024,1,39
```

Processed wire list (exported):

```
# Source: I-DEAS 12 - Harness Design
# Export Type: Standard
# Export File: S:\services\CAD\ideas\home\stoye\ideas_start\wire_list.dat
# Export Time: Mon Jun 18 W. Europe Daylight Ti
# Username: stoye
%wire wire_id cable endp_1_comp endp_1_conn endp_1_pin endp_2_comp endp_2_conn
endp_2_pin wire_diameter wire_length wire_min_length
wire_max_length wire_color pathname material_name material_type
wire_separation_code tag_description wire_endp_1_near_comp wire_endp_2_near_comp
endp_1_cable endp_2_cable part_number wire_gauge wire_type
w012, , , CON012, 1, , CON024, 1, 39, 51900.3, 0, 0, , , , , , , , , , 0,
w011, , , CON011, 1, , CON023, 1, 39, 51900.3, 0, 0, , , , , , , , , , 0,
w010, , , CON010, 1, , CON022, 1, 39, 51900.3, 0, 0, , , , , , , , , , 0,
w009, , , CON009, 1, , CON021, 1, 39, 51900.3, 0, 0, , , , , , , , , , 0,
w008, , , CON008, 1, , CON020, 1, 39, 51900.3, 0, 0, , , , , , , , , , 0,
w007, , , CON007, 1, , CON019, 1, 39, 51900.3, 0, 0, , , , , , , , , , 0,
w006, , , CON006, 1, , CON018, 1, 39, 51900.3, 0, 0, , , , , , , , , , 0,
w005, , , CON005, 1, , CON017, 1, 39, 51900.3, 0, 0, , , , , , , , , , 0,
w004, , , CON004, 1, , CON016, 1, 39, 51900.3, 0, 0, , , , , , , , , , 0,
w003, , , CON003, 1, , CON015, 1, 39, 51900.3, 0, 0, , , , , , , , , , 0,
w002, , , CON002, 1, , CON014, 1, 39, 51900.3, 0, 0, , , , , , , , , , 0,
w001, , , CON001, 1, , CON013, 1, 39, 21186.7, 0, 0, , , , , , , , , , 0,
%cable cable_id endp_1_comp endp_1_conn endp_1_pin endp_2_comp endp_2_conn
endp_2_pin cable_cover_thickness cable_color pathname material_name
material_type tag_description parent_cable cable_shielding cable_type wire_list
```

First steps on the XFEL pulse cable harness design...





From processed wire list (exported from I-DEAS):

[...]
w015, , CON027, 1, , CON039, 1, 39, 51900.3, 0, 0, , , , , , , , , 0,
w014, , CON026, 1, , CON038, 1, 39, 51900.3, 0, 0, , , , , , , , , 0,
w013, , CON025, 1, , CON037, 1, 39, 51910.2, 0, 0, , , , , , , , , 0,
w012, , CON012, 1, , CON024, 1, 39, 51900.3, 0, 0, , , , , , , , , 0,
w011, , CON011, 1, , CON023, 1, 39, 51900.3, 0, 0, , , , , , , , , 0,
[...]
w003, , CON003, 1, , CON015, 1, 39, 51900.3, 0, 0, , , , , , , , , 0,
w002, , CON002, 1, , CON014, 1, 39, 51900.3, 0, 0, , , , , , , , , 0,
w001, , CON001, 1, , CON013, 1, 39, 21186.7, 0, 0, , , , , , , , , 0,
[...]

