



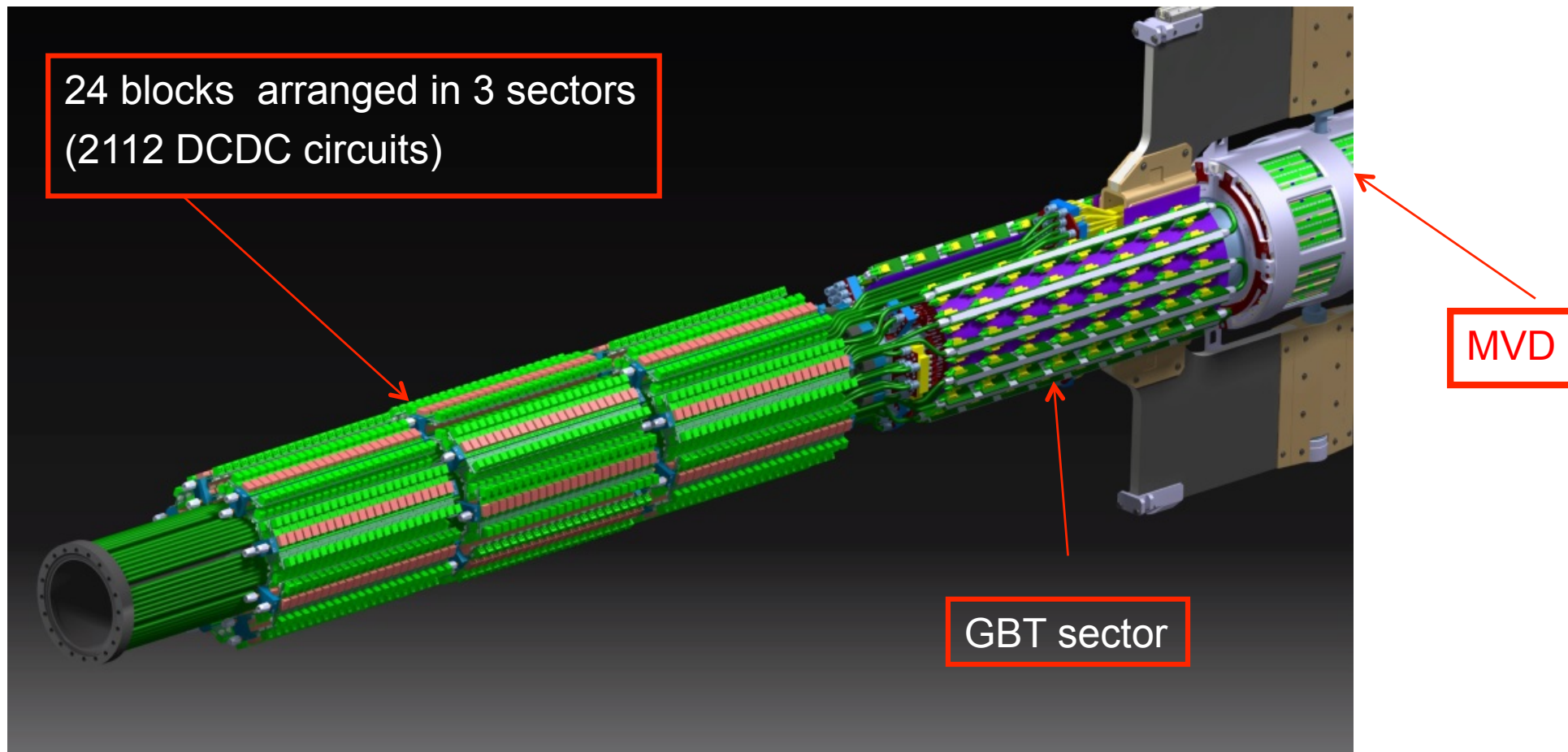
# Updates on MVD Mechanics and 3D Model of Services

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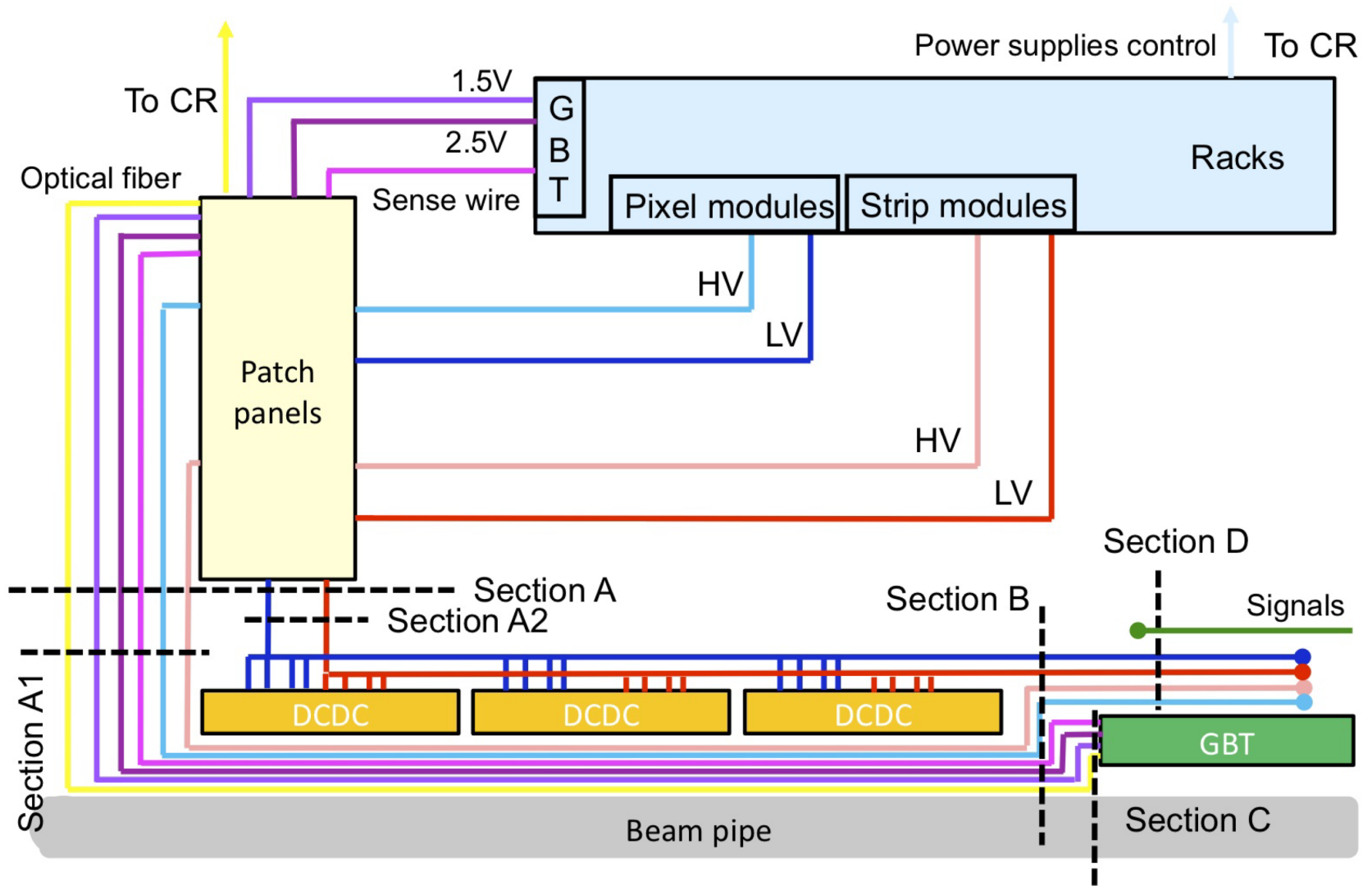
# Outline

- Services tables
- MVD services update and 3D model

# MVD services



# MVD services



# MVD services

Section name	HV	Optical fibers	Signal	LV GBT	LV FEE	Total
A1	768 1298	428 3852		81 5850		<b>1277</b> <b>11000</b>
A2					300 16840	<b>300</b> <b>16840</b>
A (A1 + A2)						<b>1577</b> <b>27840</b>
B	768 1298	428 3852		81 5850	3584 3284	<b>4861</b> <b>14284</b>
C		428 3852		81 5850		<b>509</b> <b>9702</b>
D	768 1298		230 640		3584 3284	<b>4582</b> <b>5222</b>

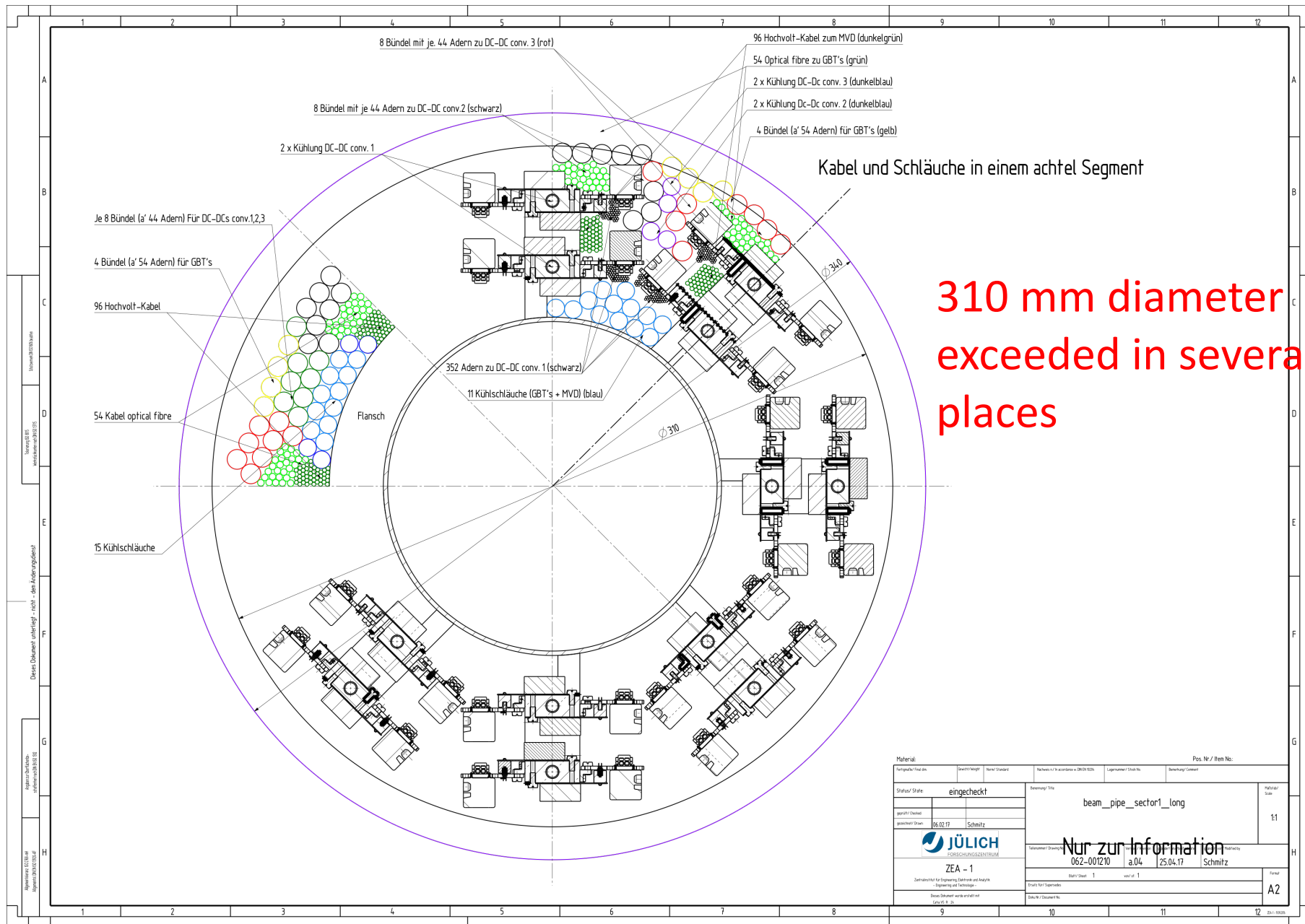
Some updates:

Cable number

Total cable section  $\times 4/\pi$  [mm<sup>2</sup>]

- Optical fibers in use have a diameter of 3 mm
- HV cables have a diameter of 1.84 mm

# Services Cross Section (DC-DC sector)



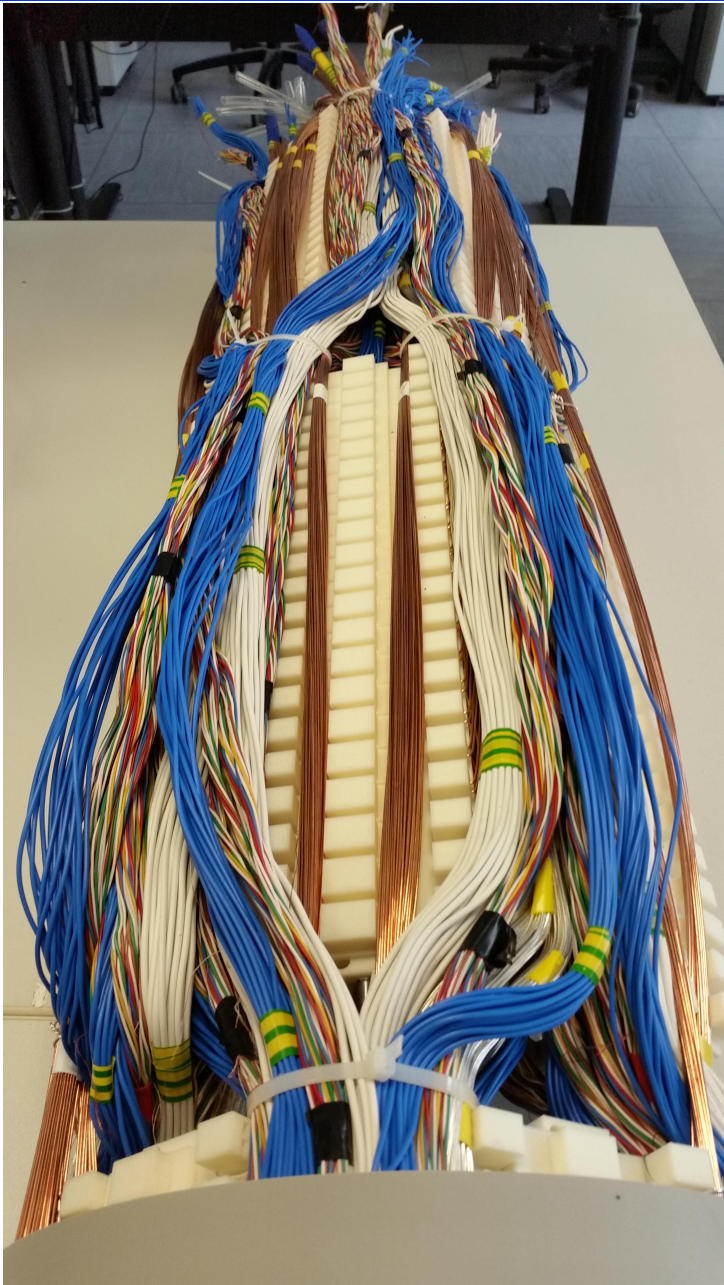
310 mm diameter exceeded in several places

Material:		Status/State		Pos. Nr / Item No.	
Partname/Teil des	Identif./Wegf.	Identif. Standard	Materialcode	Legennummer / Stück No.	Bemerkung/Comment
Status/State		eingeckt		beam_pipe_sector1_long	
geplant/Planned	06.02.17	Schmitz		11	
		ZEA - 1		Nur zur Information	
Zentrum für Experimentelle Daten und Analyse		062-001210		a.04 25.04.17 Schmitz	
Engineering and Technology		Blatt/Sheet 1		von/of 1	
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CAD/CAE 3.0		Datei/Document No.		12	

# 3D Model of services

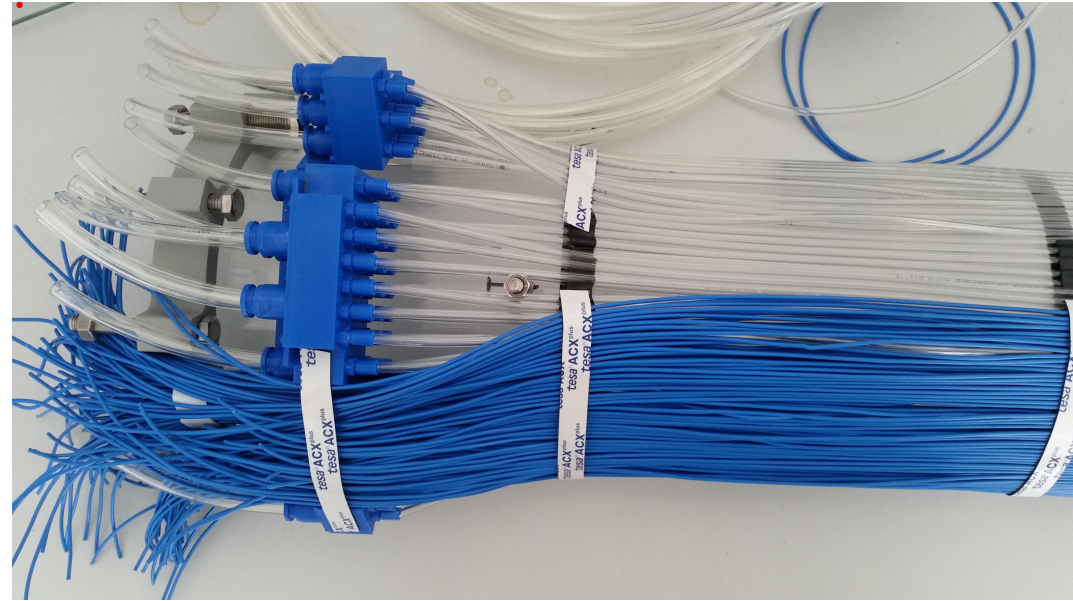
- Work of R. Schmitz, E. Rosenthal, D. Grunwald (FZ Jülich)
- More accurate feasibility test of the service region
- DC-DC region: complete (March meeting) and updated with new cables (HV, fibers and DC-DC input cables)
- GBT region: work in progress
  - GBT boards with actual dimensions implemented
  - HV/LV cables implemented
  - Data cables missing

# 3D Model of services



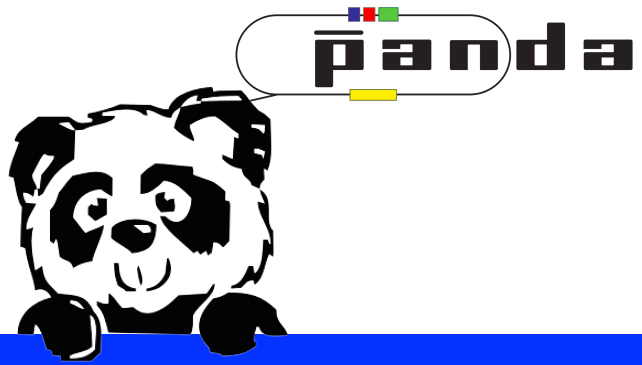


# 3D Model of services



# Work ongoing

- Updated design of GBT sector in progress:
  - Evaluation of possible solutions to accommodate more, larger boards
  - Increase of outer diameter to 340 mm seems until now unavoidable
- Mechanical tests of silicon strip sensors ongoing (IKV, stave producer) to established minimum required robustness of stave



Thank you for your attention!