TRACER R2.4 UPDATES

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ATLAS Tracer Team:

    PHATARIDZE Lasha – *Events interpretation*

    UDZILAURI Nikoloz – *GUI design*

    KOBAKHIDZE Shota – *Geometry descriptions preparation*

    KHELASHVILI Levan– *WebGL programming*

R2.4 Updates

- Application release R2.4 is in development folder and not in production. You can reach it here cadcamge.ch/at/r2.4/

- While it is development folder many bugs and unexpected functionalities will be existed

- Once R2.4 will closed and new R2.5 folder opened all updates from R2.4 will go to production folder tracer.web.cern.ch

There are 4 main directions of Tracer development:

- Geometry evolution

- Basic functionality

- User Interface

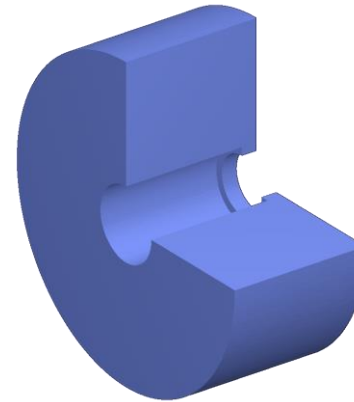- Events visualisation
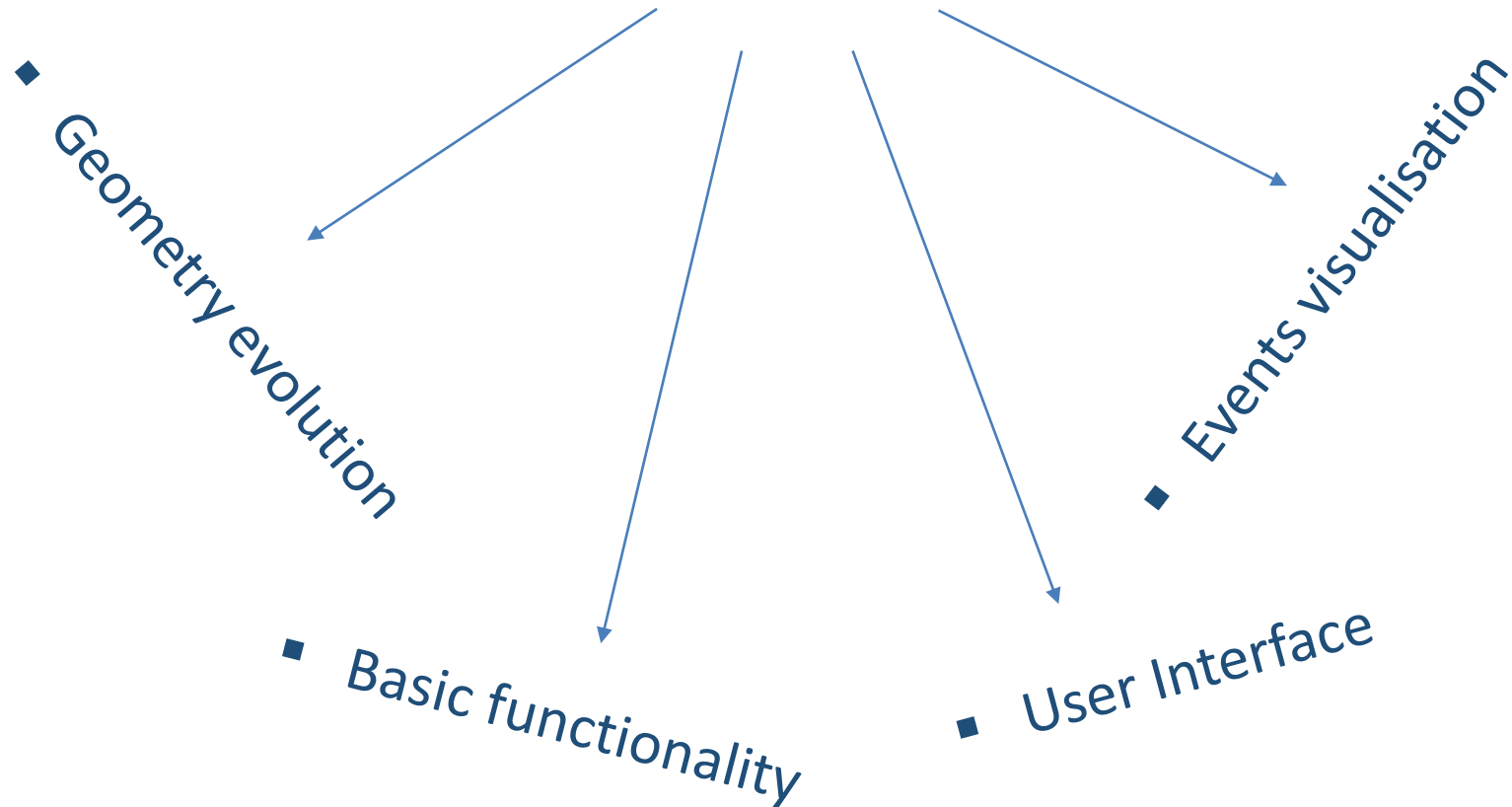
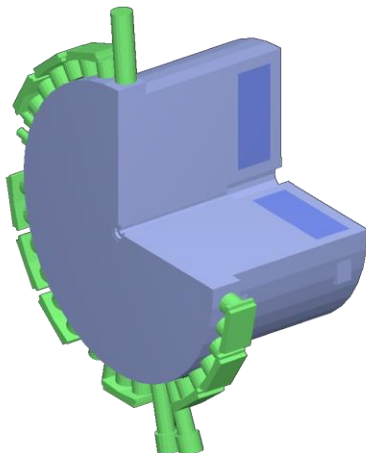# Following New Components are added:

1. LAR Forward Calorimeter
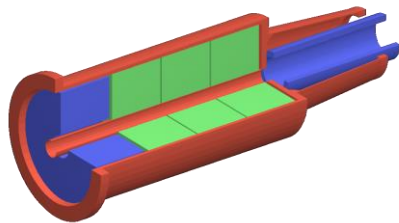
3k->7k

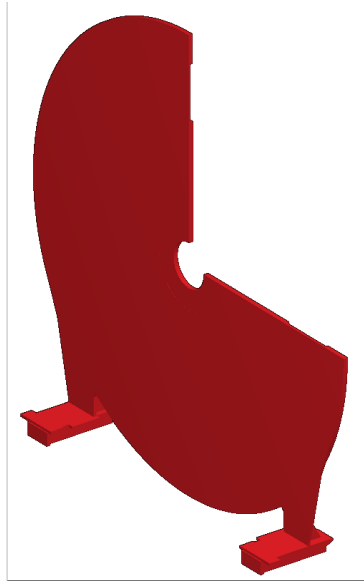2. LAR Hadronic End-Cap Calorimeter

4k->2k

3. LAR Electromagnetic Calorimeter

34k->5k
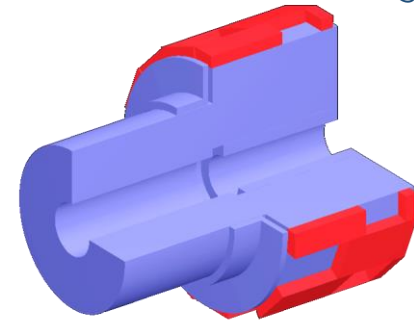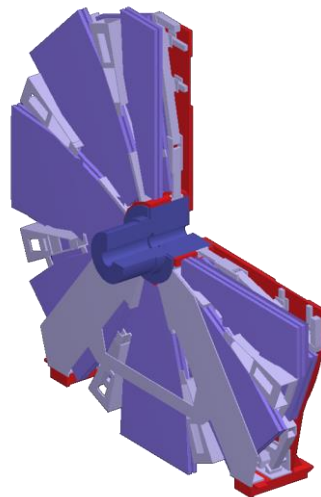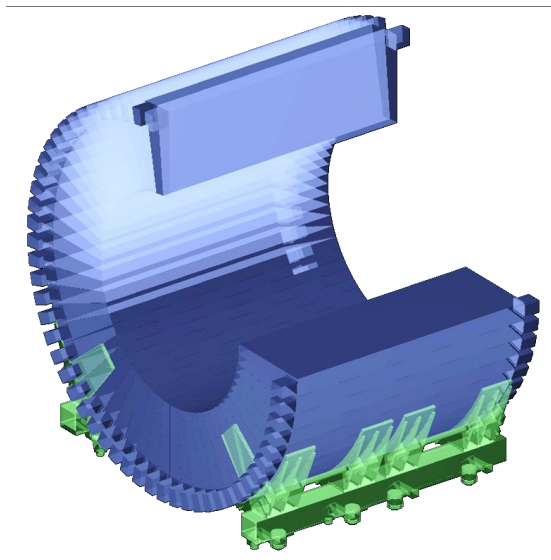
4. NSW JD Disk

2k->4k

5. NSW Hub

3k->2k

6. NSW Aluminium Structure with Chambers

39k->14k
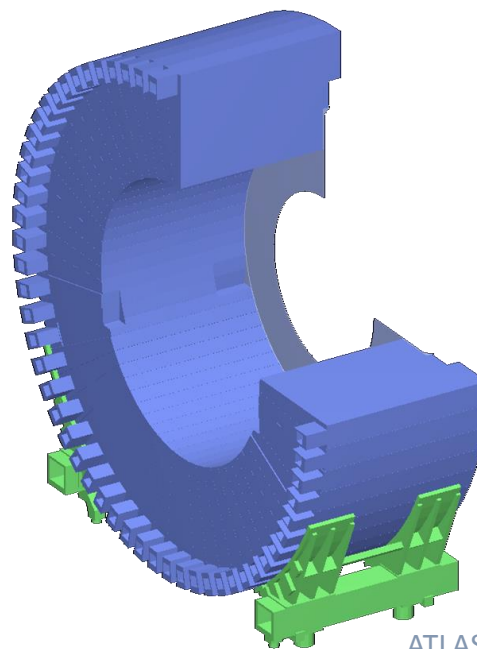
7. **Tile Barrel**   `12k->2k`

8. **Tile Extended Barrel**

`81k->19k`

- ## Geometry Evolution Schedule

|	Geometry Components of ATLAS Tracer			Simplification			
	Components				Desktop	Mobil	
1	INNER DETECTOR	PIXEL	353 015	80 283	77%		DONE
2	INNER DETECTOR	SCT	283 042	54 391	81%		DONE
3	INNER DETECTOR	TRT	707 072	32 904	95%		DONE
4	LAR EM	BARREL	102 086	37 000	64%		DONE
5	LAR EMEC	ENDCAP					
6	LAR HEC	ENDCAP					
7	LAR FCAL	ENDCAP	344 880	15 184	96%		DONE
8	TILE	BARREL	11'600	1'600			DONE
9	TILE	EXTENDED	81'000	19'000			DONE
10	MUON SMALL WHEEL	ENDCAP	73'000	11'000			DONE
11	MUON EXTRA WHEEL	ENDCAP					
12	TOROID MAGNET	ENDCAP	0				
13	FEETS		0				
14	WARM STRUCTURE						
15	TOROID MAGNET	BARREL					
16	MUON INNER	BARREL	0				
17	MUON MIDDLE	BARREL					
18	MUON OUTER	BARREL					
19	MUON BIG WHEEL	ENDCAP					
20	MUON OUTER WHEEL	ENDCAP					

We added Components Tree in scene

- Components Hierarchy is now visible

- Possible to load/unload components by simple Click on tree

- For the moment just children's level is active, but later we will activate parents level for load/unload
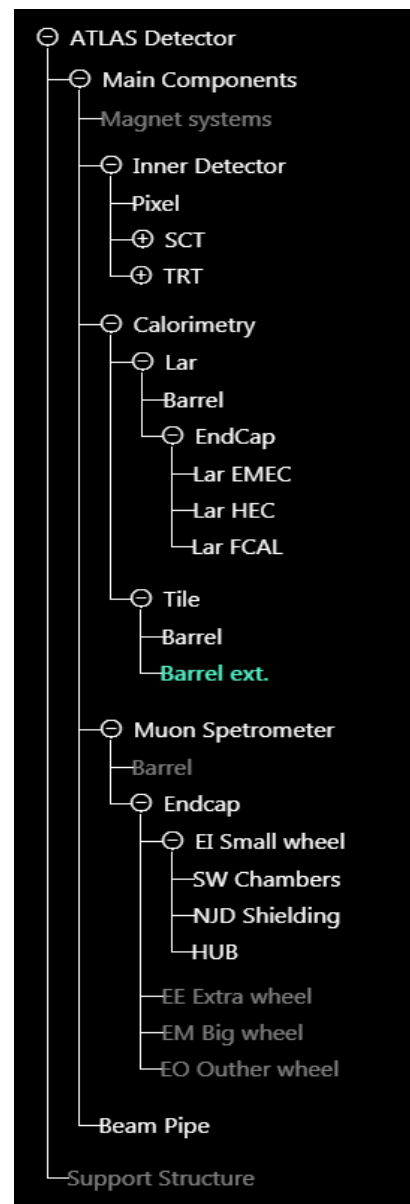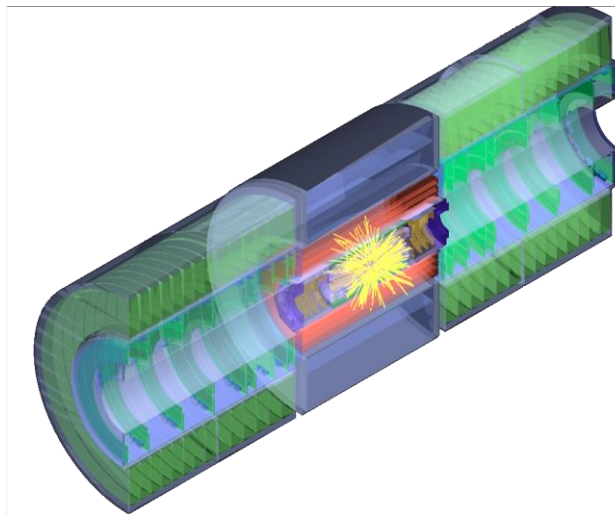
We added some animation to scene:

- Protons animation in Beam pipe
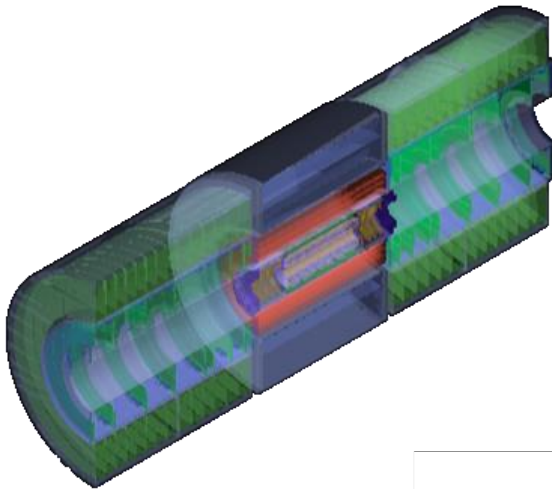
- Tracks distribution from Z0

- Beam animation together with Tracks distribution

- Reading Tile Calorimeter Hits from XML and visualize them together with cells

- Adding Toroid Magnets geometry

- Organize components annotations for user interface

Comments are welcome, Thanks

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