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WP 9.3 progress at INFN-LNL Liquid Tin Diffusion

I.FAST WP9 10th meeting - 14.09.2023

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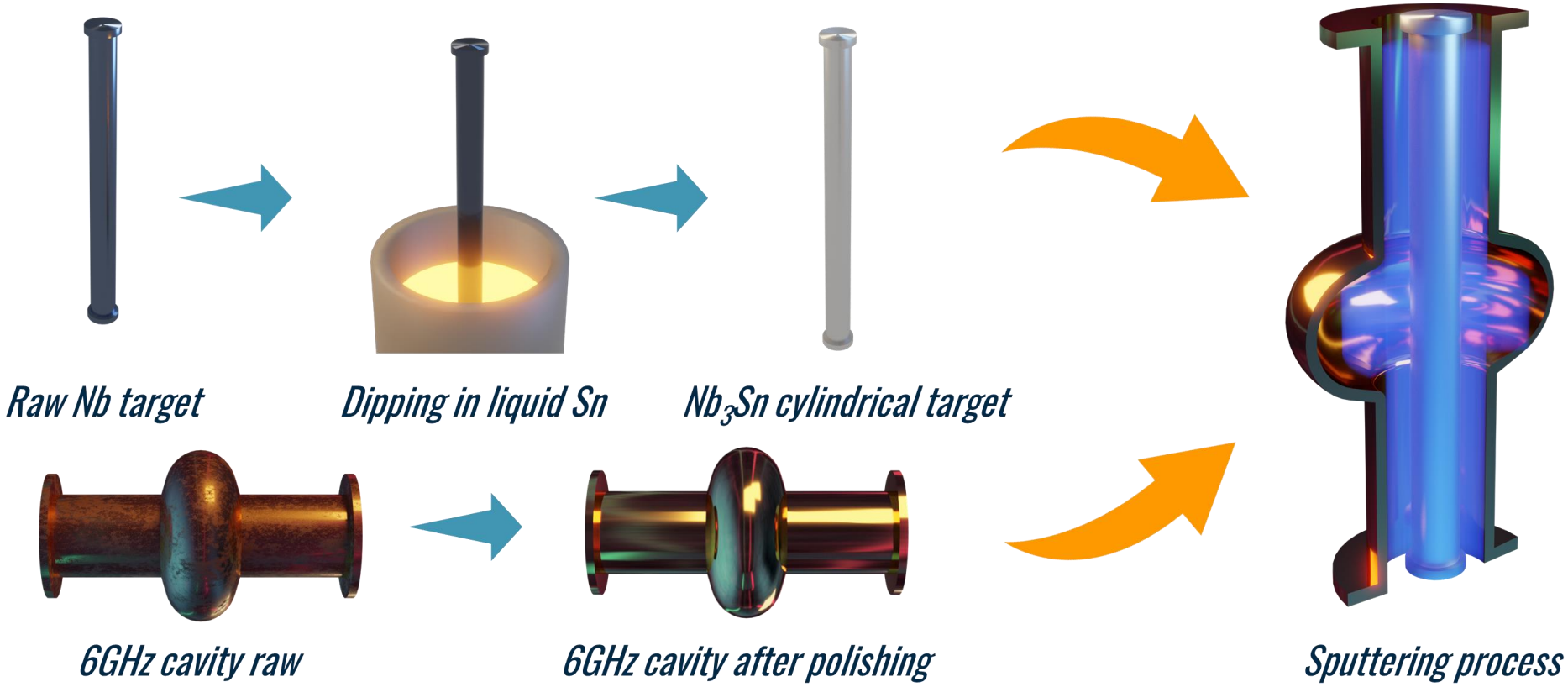
Liquid Tin Diffusion Process



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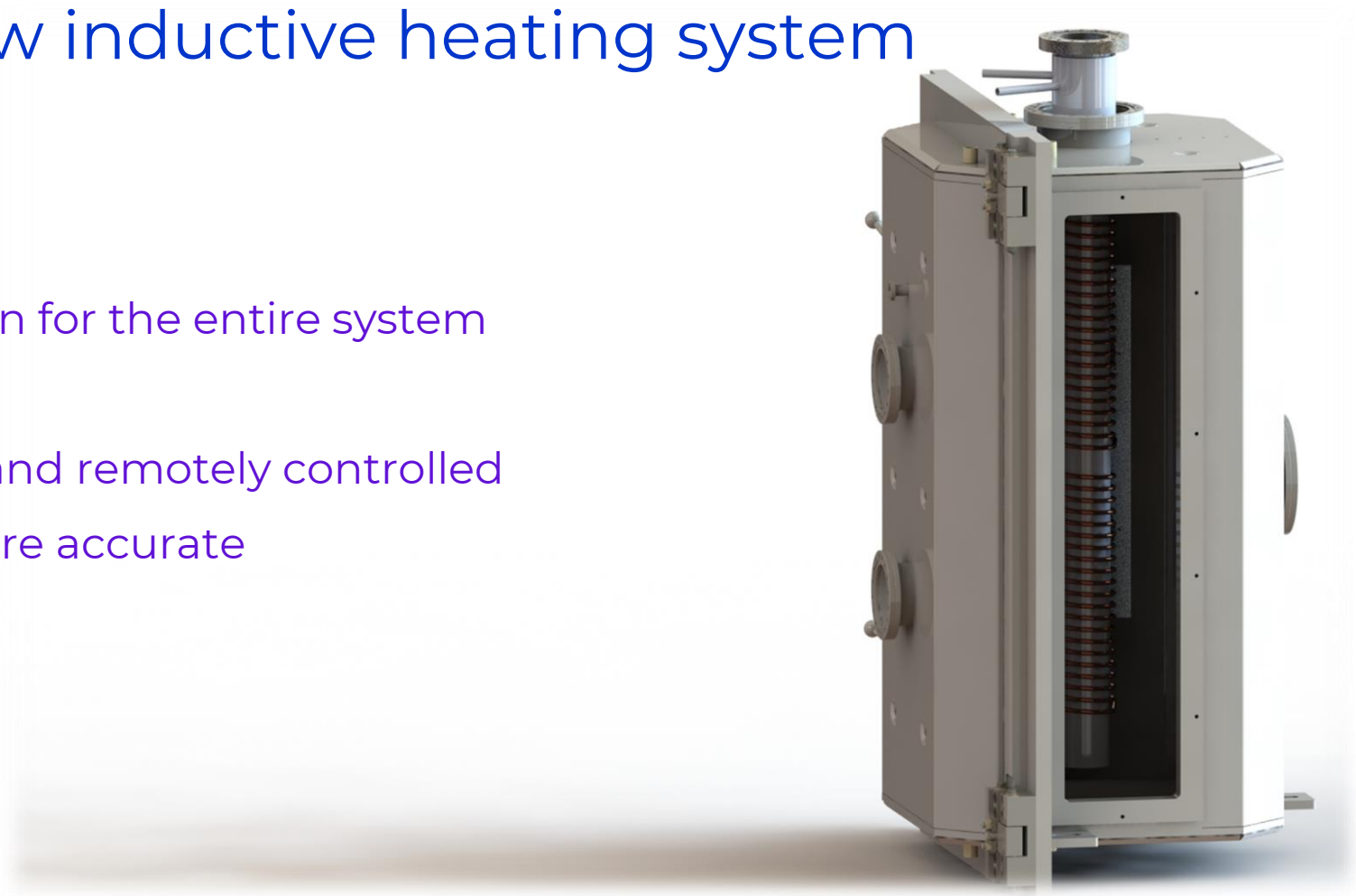
New system solution

New custom vacuum chamber system that contains the Nb chamber and new inductive heating system

- Integral chamber cooling;
- 2 viewports for monitoring;
- Single vacuum pump solution for the entire system
- 3 kW total power
- Process entirely automated and remotely controlled
- More reliable system and more accurate temperature control



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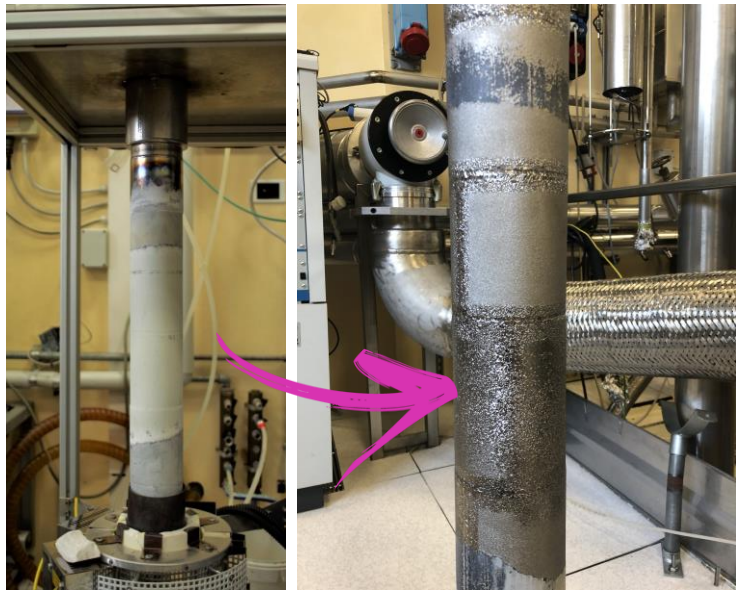
Nb chamber ready to be mounted



Oxide layer removed

New flange EB welded to chamber

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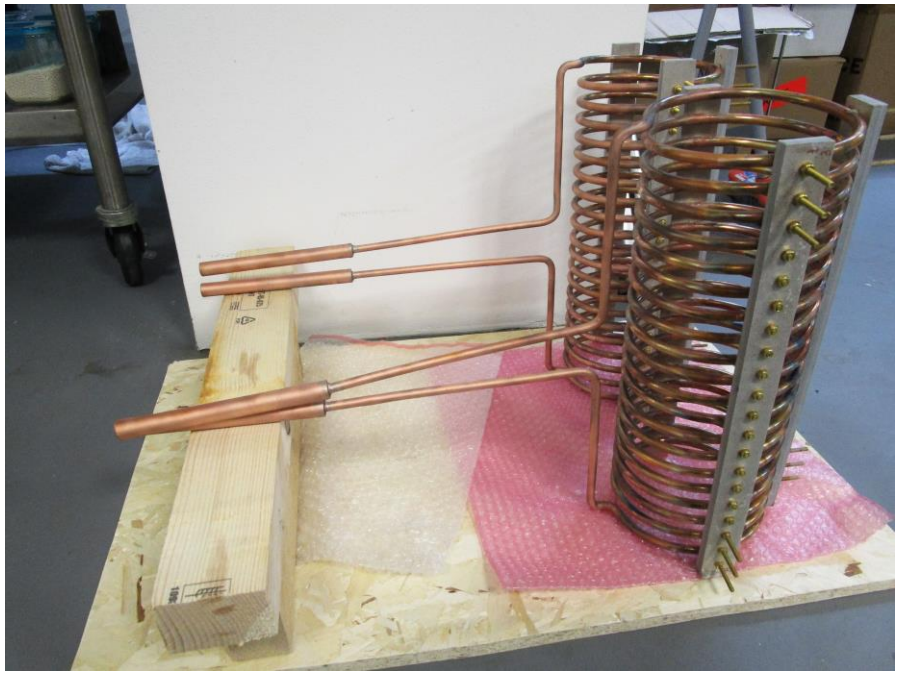
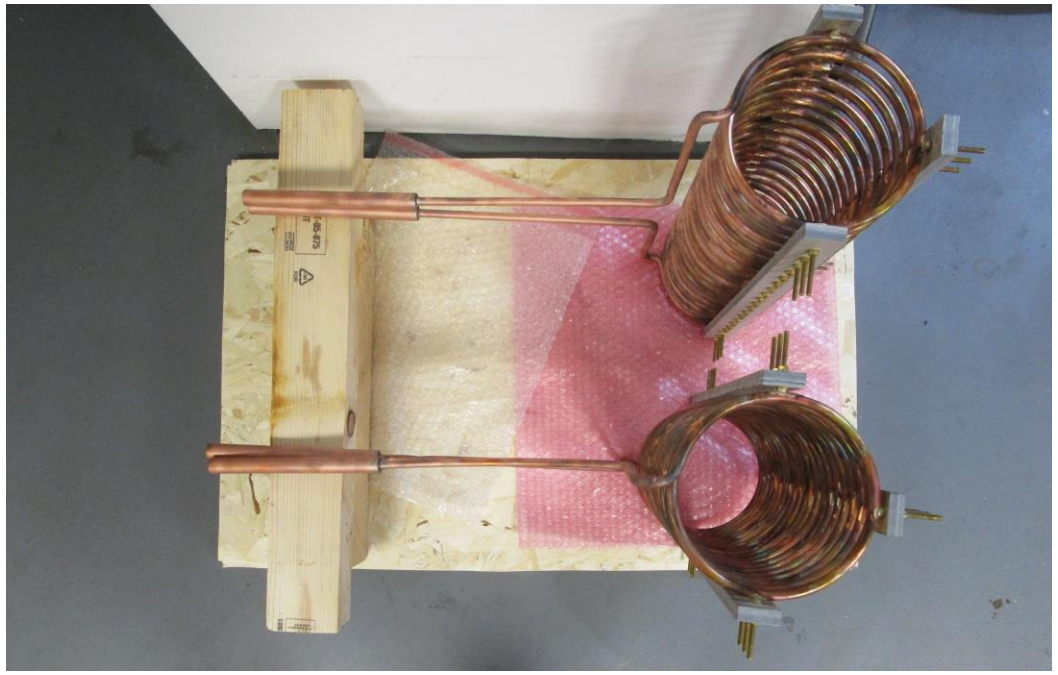
Inductors and generators ready!





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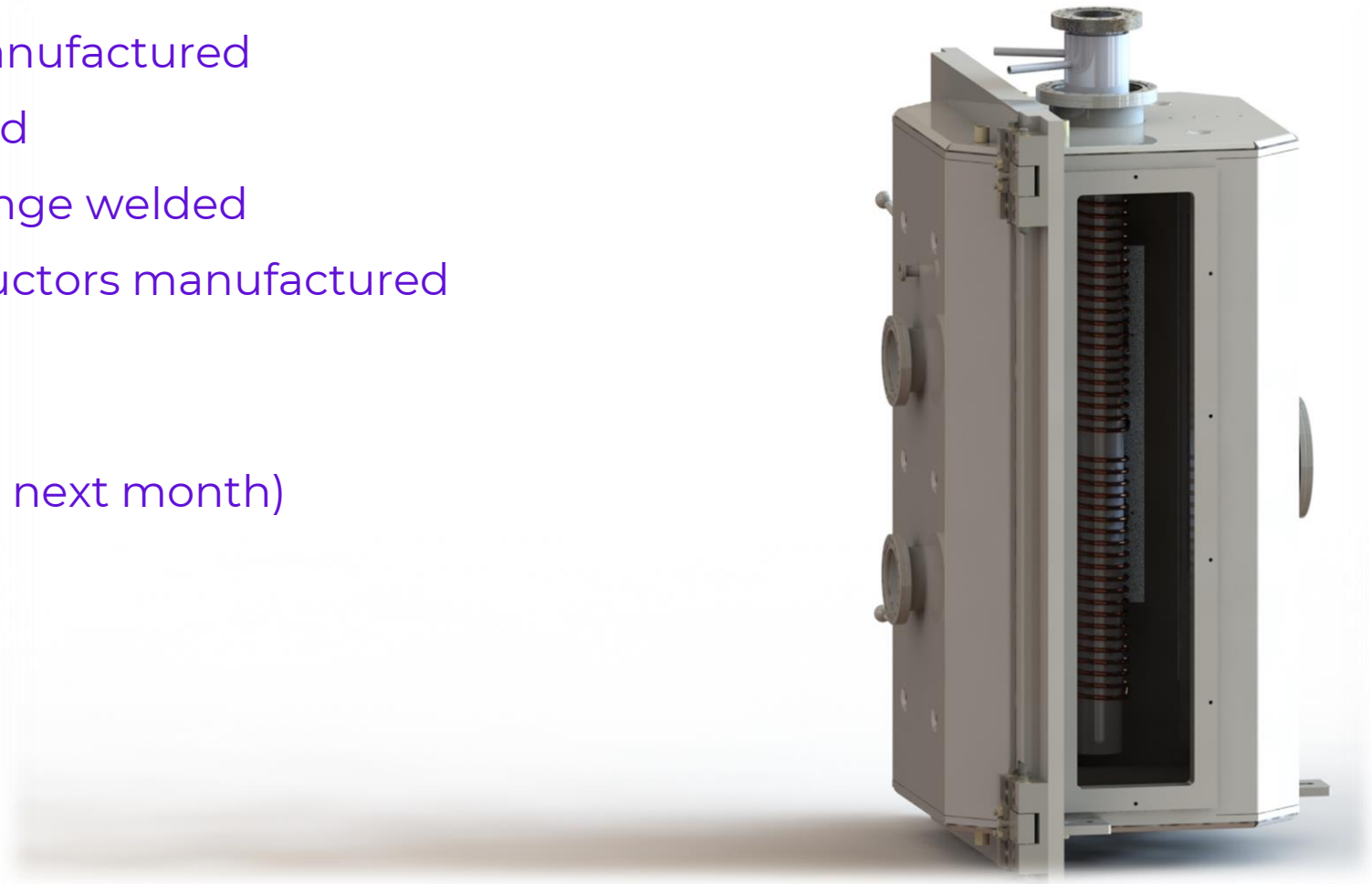
Where are we at?

Done:

- Inductors and generators manufactured
- Control electronics completed
- Nb chamber cleaned and flange welded
- Custom feedthrough for inductors manufactured

To do:

- New outer chamber (arriving next month)



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Thank you!

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