Proposal of a fusion Venture-Project-Thesis

V. Queral

Few slides presenting the current concepts and to allow discussion

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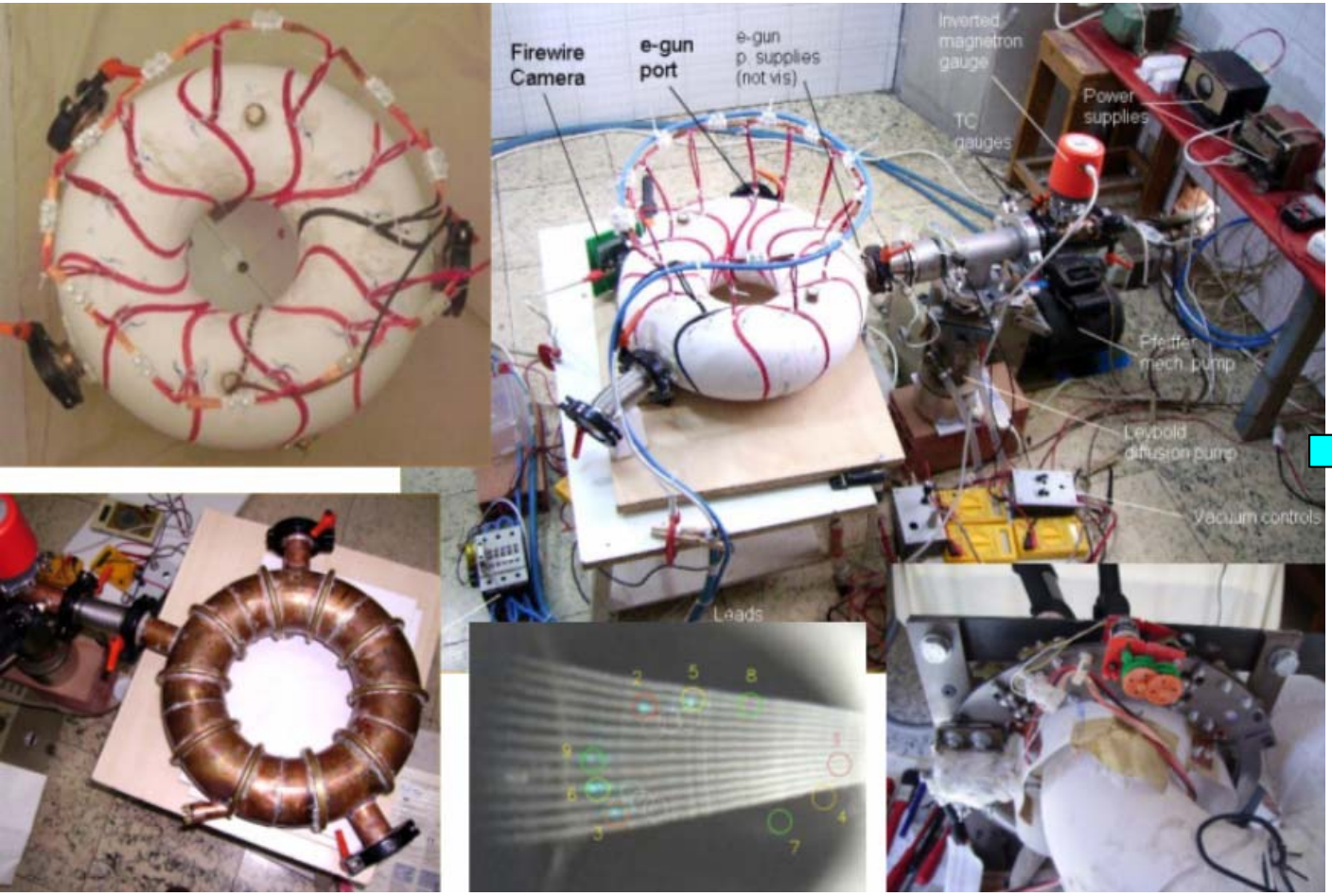
Motivation and background

Successful UST_1 → UST_2 torus



- Information about **UST_1**, success and V. Queral can be found in:
  - "UST_1, a small, low-cost stellarator" ; V. Queral ; Stellarator News, n. 118, Dec. 2008
  - Web : www.fusionvic.org
- **V.Queral** is a senior Ms Engineer (45) with 20 years of successful professional experience

Tips about the general policy of the endeavour

Objectives and policy *(still open to discussion)*

1) Generate **innovation** and produce **patents**.

2) Produce a **real** fusion device of any size (not only concepts) in less than 2 years.

3) Contribute to the generation of one or two **PhD** Thesis.

4) The endeavour is **open and non-profit***. The results, if economical, shall be **re-invested in non-profit** institutions or projects. *The results will be shared by the participants somewhat similarly to **company shares.***

5) Budget and then size of device will depend on raised funds. 10 k€ are currently available for materials (cost of UST_1 materials was 3 k€). Higher budget is important for more and better results.

6) Contribute to the improvement of fusion engineering.

7) Contribute to the supply of **inexpensive clean energy** for the world.

**** A (non-profit) Foundation will be created as soon as possible to manage the matters***

Focus of the Venture-Project-Thesis

Present focus of the endeavour *(suggestions welcomed)*

- **Innovative construction methods** to lower costs. Essentially **3D printing** methods focused on **large pieces** produced by relatively **low cost 3D printing materials** <~10€/kg). See presentations in www.fusionvic.org for more information.

- Use of recent enhanced confinement concepts to allow future small, **vying and profitable fusion reactors.** More technically: Achieve high plasma confinement by a turbulence (and neoclassical) optimized fusion device.

- Production of **huge amounts of power**, if a reactor, 2-5 GW_e in a size of a coal plant. More technically: Devise a **divertor innovative implementation**: simple, competitive cost, huge power extraction (external divertors, liquid divertors, innovative systems, etc). This matter is critical for **competitive** reactors.

► **About possible interest and support from the reader for the Venture-Project-Thesis proposed.**

► **Benefit for the 'Sponsor Supporters':**

▪ **Intangible benefit** will be obtained by **individuals** (access to new know how generated, participation in publications, written recognition, public web recognition) and **institutions** (access to new know how generated, special lower price of future built fusion devices, publicity from an exceptional development, publications, public web recognition, etc).

▪ **Economical results to be reinvested in non-profit projects**: From shared patent royalties, results from the supply of the created stellarator(s) or 3D printers.

► Please, email to VyingFusionEnergy@fusionvic.org

Note : The benefits for the 'Uplifting Supporters' will be mainly acknowledgement

End

Thanks

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