ESS neutrino Super Beam plus

“ESSvSB+ reaches those parts that other projects cannot reach”

A world-leading neutrino laboratory for Europe

- Revitalising neutrino physics in Europe
- Highest production intensity [5 MW driver]
- A second generation Super Beam featuring the greater sensitivity at the 2nd oscillation maximum
- Largest detector mass [540 kilotonnes]
- Precise ν cross-section measurements at low energy

Building upon current European R&D investment

- Using the ESS as a foundation
- Uniquely powerful proton accelerator
- Drawing experience from CERN | Fulfilling European ambitions
- in Europe itself | Benefitting from first generation SB experience

Addressing fundamental scientific questions

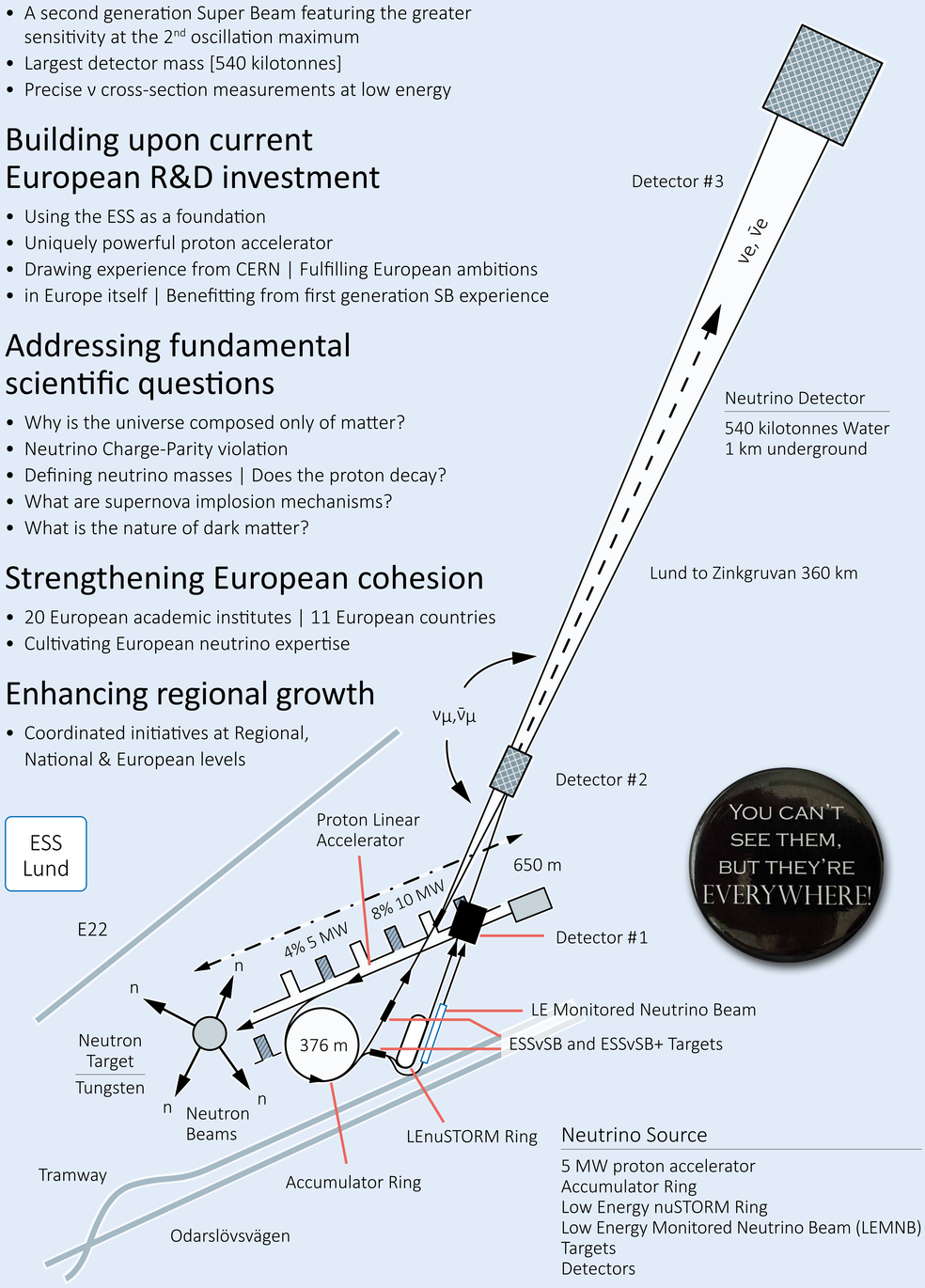
- Why is the universe composed only of matter?
- Neutrino Charge-Parity violation
- Defining neutrino masses | Does the proton decay?
- What are supernova implosion mechanisms?
- What is the nature of dark matter?

Strengthening European cohesion

- 20 European academic institutes | 11 European countries
- Cultivating European neutrino expertise

Enhancing regional growth

- Coordinated initiatives at Regional, National & European levels



Creating training and employment opportunities

Research staff | Construction staff | Support staff

Making demands upon European Industry

Innovative mining technology | Advanced accelerator components | Large volume, high purity water conditioning High effectiveness radiation shielding

Excellent value for money & good timing

Using the 3B€ ESS as a springboard | Capital cost ~1.7B€ | Data taking by 2037

Further information & contacts: http://essnusb.eu/site | @essnusb

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