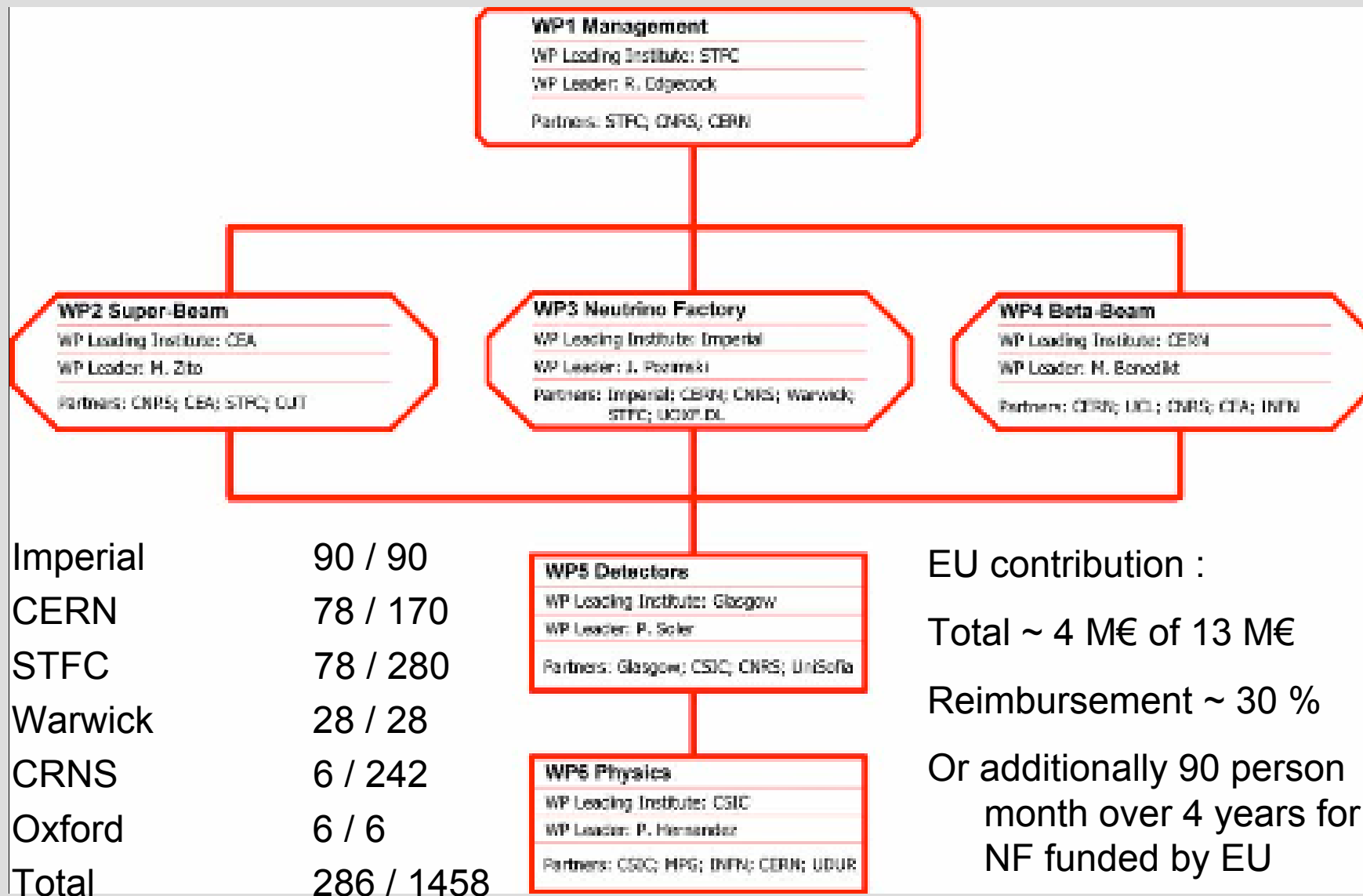


IDS and the European contribution : Eurov

- Proposal prepared in May 2007
for FP7 Design study call
- Proposal was accepted August 2007
(80% of request offered - highest return of all DS)
- Negotiation started with EU October 2007
- Kick off meeting 5th Feb. 2008 at CERN

Euroν - structure - partners - funding (WP3)



Euroν - WP 3 - why ?

- To integrate additional EU partners into IDS
 - To get additional funding from EU for NF studies
 - To receive EU recognition
-
- End to end simulation (Target to Rings) for performance and cost evaluation.
 - Proton beam handling after target & safety
 - & new ideas from “fresh faces”

How ?

1) Review phase ~ first 12 month

integration of new partners into the NF DS effort and identification of a detailed work plan

2) Integration of new ideas ~ 24 month

Effective contributions to the IDS DS effort concentrating on muon front end and FFAG acceleration. Preparation of end to end simulation.

3) Performance evaluation phase ~ last 12 month

End to end simulation of (new) baseline design, performance and cost evaluation, writing up.

WP3 - Objectives

-The ISS also established that the remaining crucial issues that must be addressed through the Design Study are: the muon front-end, including the ionisation- cooling channel; the large-aperture, rapid, acceleration systems; and the target and the handling of the high- power proton beam that emerges from the pion-production target. In addition, in order to assess quantitatively the performance of the Neutrino Factory it is essential to develop an end-to-end simulation of the accelerator complex.....
-Detailed simulations of the baseline ionisation-cooling channel will be performed with a view to establishing both the performance and the cost. In parallel, the potential of alternative ionisation-cooling options will be investigated to establish whether they are feasible and to determine whether they offer a performance or cost advantage.....
-Consideration of the handling of the high-power proton beam that emerges from the target will be limited to the key issues that pertain to the Neutrino Factory: the safe handling of the beam power.....
-The end-to-end simulation developed in the course of the Design Study will be used to evaluate the performance of the facility.

WP3 - Deliverables

- 1 Completed review of ionisation-cooling and muon acceleration
15 month 20 % CERN
- 2 Completed simulation of baseline and alternative ionisation-cooling channel, including a cost and performance analyses for reference muon front end (report).
30 month 20 % CNRS
- 3 Completed simulation of baseline and alternative muon acceleration system and the decay rings and evaluation of reference design for spent proton-beam handing system, including a cost and performance analyses.
38 month 20 % IC
- 4 Complete end-to-end simulation and evaluation of the performance of the Neutrino Factory as input to the comparison
42 month 20 % CEA

WP3 - Milestones

Milestone	month	main b.
Evaluation of baseline front-end and acceleration systems	15	CERN
Evaluation of performance of alternative cooling and acceleration	24	STFC
Specification of proton-beam handling system	24	UCL
Benchmark costing for muon front-end and acceleration systems	30	CNRS
Initial health-and-safety evaluation of proton-beam handling system complete		38 STFC
Cost and Performance evaluation complete	40	CNRS
Comparison of physics performance of all facilities	43	all

And now ?

- Organisation of detailed work plan until next IDS plenary, keeping IDS plans in mind.....
- Stimulate & organize regular exchange between IDS and Eurov DS (WP3)
- Integrate new partners into IDS
- And also looking @ further possible synergies from FP7 for IDS

FP7 call for accelerator R&D with a total volume of €60M

Proposals under specific interest for a NF:

- EuroFFAG (JRA)
- Meglio (Network)
- Collimators & Materials (JRA)
- SC-RF, proton linac and neutralisation (JRA)