

Structuring further Accelerator R&D in Europe with ESGARD

R. Aleksan
EuCARD

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FP7-Planning of calls and indicative budget

Total operational budget 1665 M€

Integrating activities

e-Infrastructures

Design studies

Construction – Support to the Preparatory Phase

Construction – Support to the Implementation Phase

Policy Development and Programme Implementation

Total per call (M€)

**Call 2
2007**

**Call 4
2008**

**Call 6
2010**

**Call 7
2011**

50

EuCARD

15

AIDA
(detector)

100

<100?

IA-
accel.R&D

20

HL-LHC

TIARA

CRISP

14

9

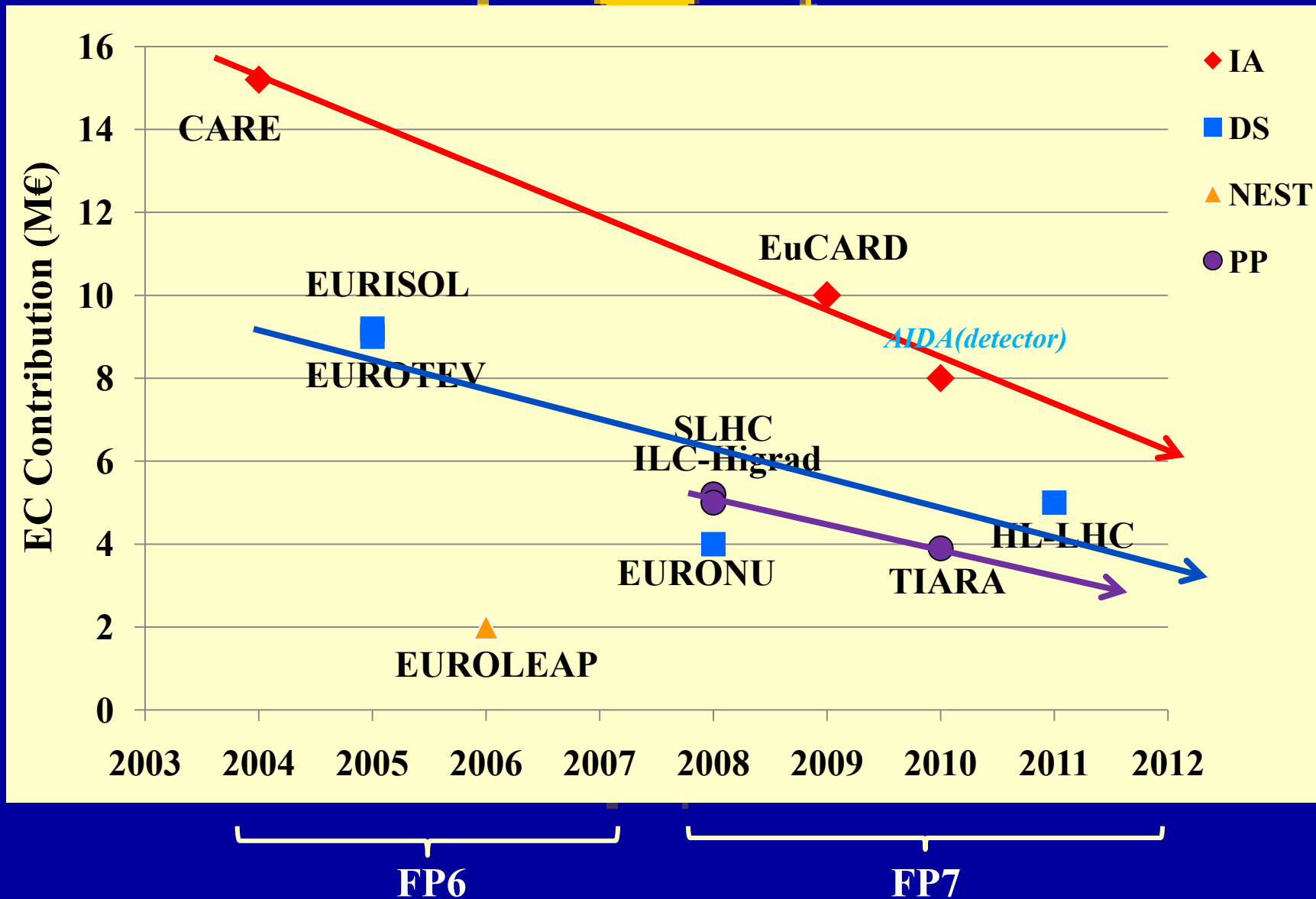
x

64

113

CAPACITIES

10 EC financed projects (FP6+FP7) pioneered by CARE amount to total budget of 197 M€ (60 M€ from EC)



Next FP7 call in 2011







DATE	Type of Call	Comments
Call: July 2011 Deadline : end Nov. 2011	IA	Targeted call for accelerator R&D

Comments: No DS foreseen
Situation for CNI not clear

main guidelines of the proposal

- *Anticipated duration: 4 Years*
- *Requested EC Contribution: 10M€*
- *Activities should cover several field (PP, NP, Light & neutron sources...)*
- *They should complement activities addressed in TIARA*
- *Give somewhat higher emphasis to NA , opening new areas*

Schedule for the « EuCARD2 » IA preparation

When	Who	What
30/09/2010 	EuCARD PC	Collect proposals of R&D themes from EuCARD members
15/11/2010 	R.A. + EuCARD SC	Discuss these and finalize
14/01/2011 	ESGARD	Select themes for NA's, TA's and JRA's. Produce version - 1 of EuCARD2 to be used as guidelines
31/1/2011 	R.A. + J.-P. Koutchouk	Identify theme coordinators & get agreement and send mandate and term of reference to theme coordinators
29/4/2011 	J.-P. Koutchouk	Collect proposals of theme coordinators and produce version 0 of EuCARD2
10/5/2011 	ESGARD	First review of the “EuCARD2” activities. Discuss and amend version 0
14/7/2011	J.-P. Koutchouk	Collect version 1 of theme coordinators and produce version 1 of EuCARD2
end/7/2011	ESGARD	Comments on version 1 and nomination of General Coordinator

Schedule for the « EuCARD2 » IA preparation

First review of the proposed activities at the ESGARD meeting on May 10th, 2011

- 15:45** Status on the preparation of the project to be submitted at the 2011 Integrating Activities call
- *15:45: NA EuroLumi2 (F. Zimmermann)*
 - *16:00: NA LowERing (S.Guiducci/Y. Papaphilippou)*
 - *16:15: NA EuroNNAc2 (R. Assmann)*
 - *16:30: NA EnEfficient (M. Seidel)*
 - *16:45: NA AccApplic (R. Edgecock)*
 - *17:00: JRA MagCol (L. Bottura/L. Rossi)*
 - *17:20: JRA RF (P. McIntosh)*
 - *17:40: JRA ANAC2 (R. Assmann)*
 - *18:00: Discussion (all)*

Preparation of the « EuCARD2 » proposal

#	type	title	topic	Thematic coordinators	EC [M€]
1	MGT	Management		ESGARD (general coordinator tbd soon)	.7
2	NA	Communication			.15
3	NA	« PAF »	Pushing Accelerators' Frontiers	F. Zimmermann*	.4
4	NA	« Low-ϵ-Ring »	Low-emittance electron rings	S. Guiducci/ Y. Papaphilippou*	.4
5	NA	« EuroNNAC »	European Network for Novel Accelerators	R. Assmann*	.4
6	NA	« SEET »	Sustainable & Energy Efficient Technologies	Mike Seidel/PSI*	.4
7	NA	AccApplic »	Applications of accelerators towards industry and healthcare	R. Edgecock*	.4
8	TA	Open access facilities	MICE, HiradMat, MagNet,...?	<i>t.b.d. later</i>	1.0
9	JRA	« HadTech »	Hadron Machines Technologies	L. Rossi*	2.5
10	JRA	« RFtech »	SC and NC RF technologies	P. McIntosh/STFC* + W-D Mueller/DESY and S. Chel/CEA as advisors	2.5
11	JRA	« ANAC »	Assessment of Advanced Concepts	R. Assmann*	1.15
					10.0

* **ESGARD** contact person

Preparation of the « EuCARD2 » proposal (cont'd)

Five main Networks



Title/Activity type	Comments
« PAF »: Pushing Accelerators Frontiers	Luminosity, energy, Beam power, polarization frontiers
« Low- ϵ -Ring »: Low-emittance electron rings	Becoming a critical need for many application within and outside PP: synchrotron light sources, storage rings, damping rings, lepton colliders...
« SEET »: Sustainable & Energy Efficient Technologies	Very broad spectrum of applications, Vital issue for some planned infrastructures, need for information exchange on experience, potential measures, new concepts ... Great interest at many accelerator labs
« EuroNNAC »: European Network for Novel Accelerators	Focussed toward plasma electron acceleration with the objective of developing a working plasma-based accelerator . Growing community requiring further structuring
« AccApplic »: Applications of accelerators towards industry and healthcare	Possibly lacking coordinated attention from our community: Coordinate and integrate the activities of the European accelerator communities in the development of accelerators for applications in industry, healthcare, energy production and security.

Preparation of the « EuCARD2 » proposal (cont'd)

Three Research activities

Activity type	Comments
« HadTech » : Hadron Machines Technologies	Many possible topics : HFM 20T, Collimation, hadron sources, Wiggler/undulators? Difficult to carry all these activities. Need to prioritize
« RFtech »: SC and NC RF technologies	4 main subtopics are investigated <ul style="list-style-type: none">• High Gradient Normal Conducting RF• Thin-film Technology• LLRF Control and Synchronization• SRF Tuner Developments
« ANAC »: Assessment of Advanced Concepts	3 main subtopics are investigated <ul style="list-style-type: none">• Ultra-Fast Accelerator Science• Drivers for Medical and Industrial Applications• Laser-Driven Plasma Acceleration Detailed tasks are under studies

Preparation of the « EuCARD2 » proposal (cont'd)

Transnational access

Activity type	Comments
HiRadMat@CERN	already 12 users registred Would need better diagnostics/data analysis
MICE@RAL	Wish from present user community to continue TA funding
MagNet@CERN	Was suppressed from EuCARD due to funding issues


List not exhaustive, Infrastructures for plasma acceleration are also investigated

Conclusion

★ ESGARD has promoted and coordinated the elaboration of a collaborative Accelerator R&D program in Europe

★ We continue this work using FP7 calls by preparing the next Integrating Activity following CARE/EuCARD.

★ This new project together with EuCARD are important inputs to TIARA for enhancing and structuring further Accelerator R&D and ensuring its sustainability



Accelerator science is a powerful mean
toward scientific, technical
and industrial breakthroughs...