



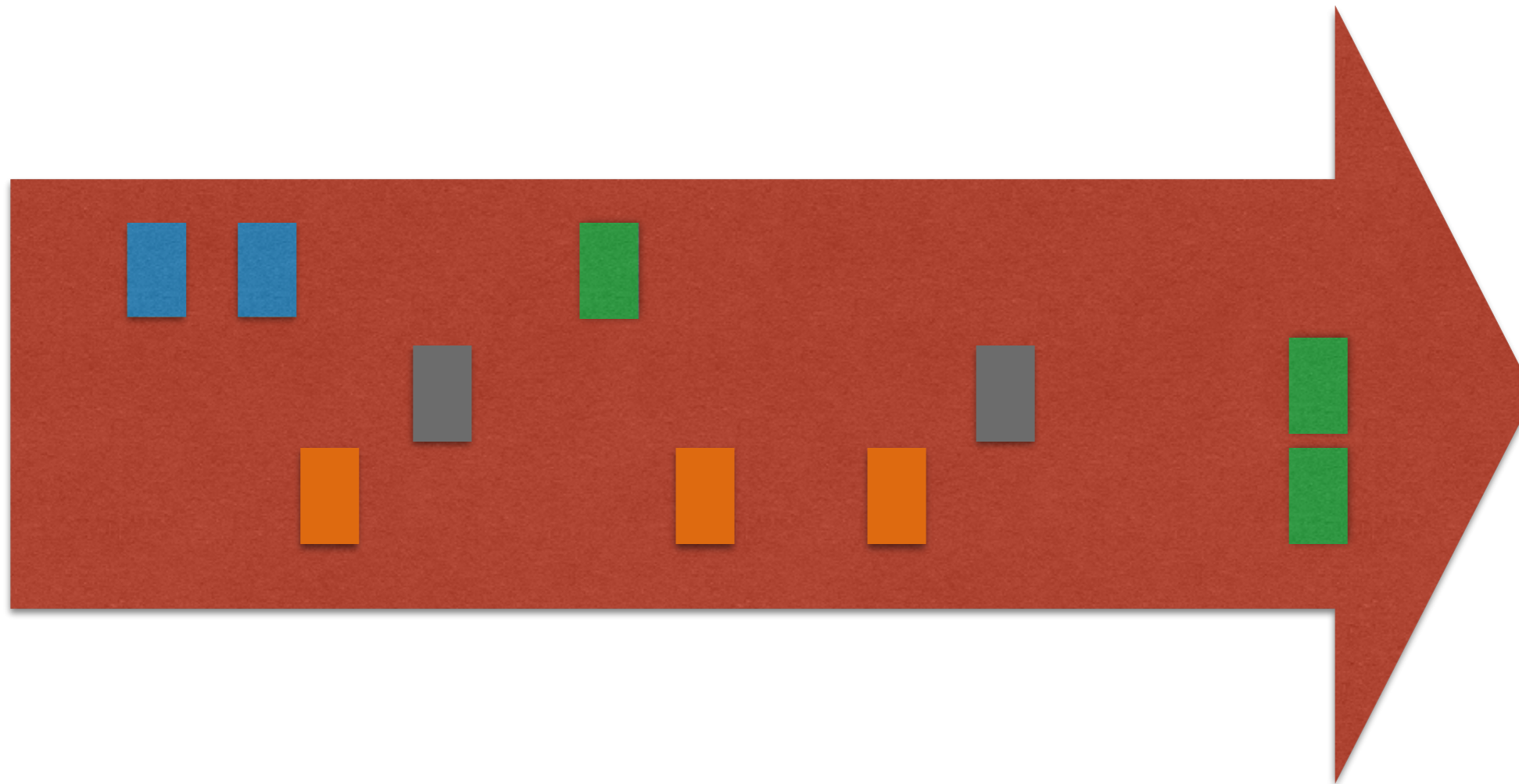
INFN Big Analog Data Project

!CHAOS: a software architecture to handle sensors and devices and their large amount data for the Big Physics and more...





Start

End

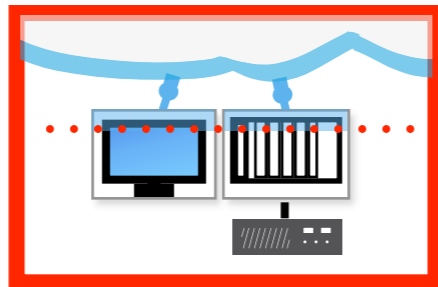
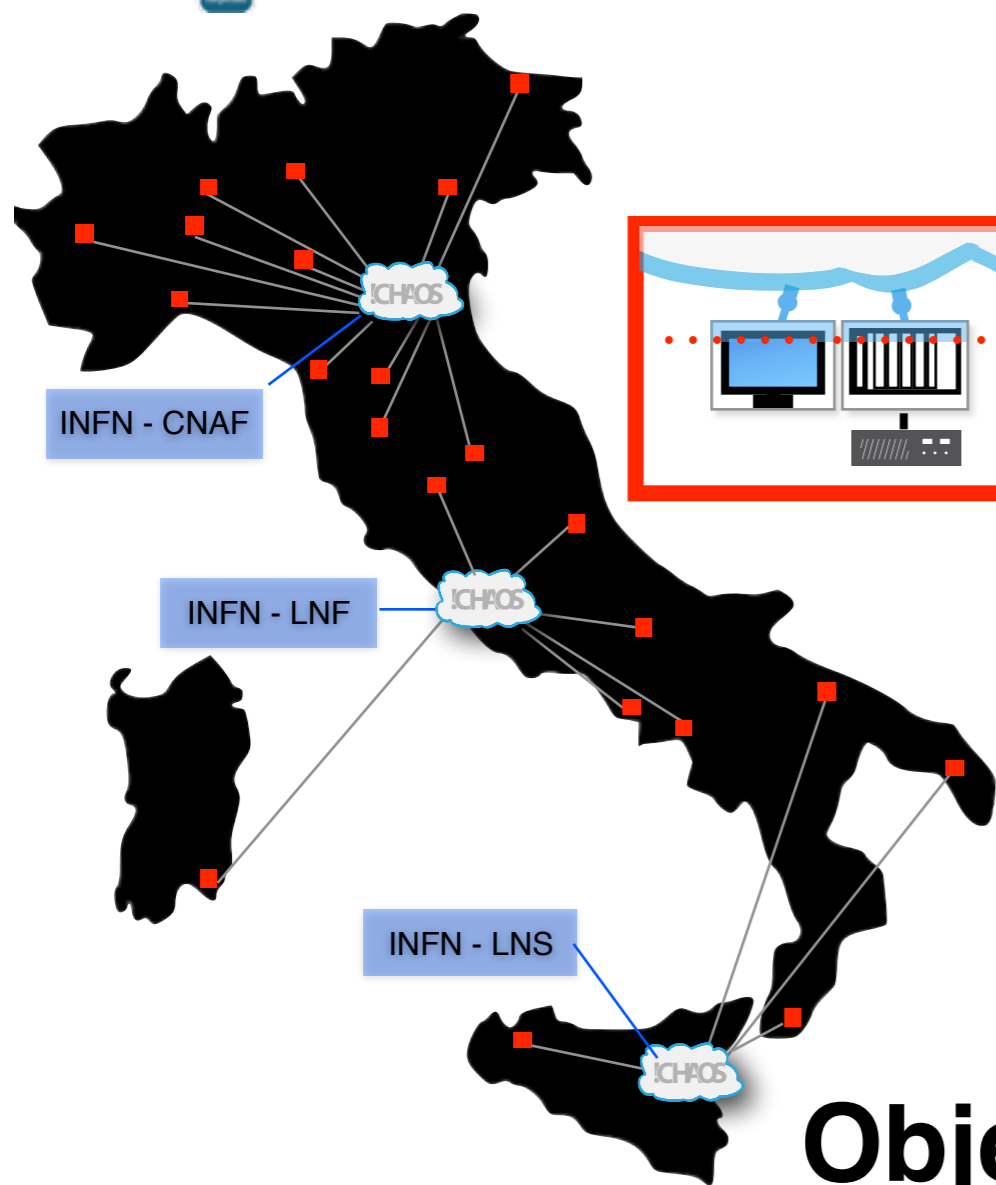


project objective
or project propose

-  ➔ milestone: sono le tappe del progetto attraverso le quali raggiungiamo le deliverable
-  ➔ deliverable: sono i prodotti da realizzare durante o alla fine del progetto per il raggiungimento dell'obiettivo
- ➔ objectives: sono gli obbiettivi generici ai quali l'attività concorre
- ➔ target: sono i destinatari del progetto, la comunita' alla quale si riferisce



Premiale INFN “!CHAOS: A Cloud of Controls”



- INFN-LNF (Laboratori Nazionali di Frascati)
- INFN-TV (Sezione di Tor Vergata)
- INFN-PG (Sezione di Perugia)
- INFN-CNAF (Centro Nazionale Tecnologie Informatiche)
- INFN-PD (Padova)
- INFN-LNS (Laboratori Nazionali di Catania)

National Instruments (NI)

ADF Solaris



Objective or project propose

a prototype of Control as a Service, an infrastructure at national level which realizes a cloud of services and procedures distributed and shared over the LAN/WAN, which allows the monitoring and control of any hardware device, system, or intelligent component and carries a network of resources to provide processing services, data logging and archiving.

Del. no.	Deliverable name	WP no.	Nature	Dissemination	Delivery date
M5.1	Implementation of the hardware infrastructure	5	O	PP	Month 2
M3.1	Definition in collaboration with WP4 the software and hardware specification and requirements	3	O	PP	Month 4
M4.1	Definition in collaboration with WP3 the software and hardware specification and requirements	4	O	PP	Month 4
M2.1	Common Framework	2	P	PP	Month10
M2.2	Metadata Service	2	P	PP	Month10
M2.3	Live and History Data Services	2	P	PP	Month10
M2.4	Control Unit, Execution Unit and User Interface	2	P	PP	Month10
M5.2	Implementation of cloud IaaS and PaaS services and infrastructure				
M 5.3	Access Policies implementation				
M2.5	Test and Qualification of all the Service	2	R	PP	Last Month
D2.1	D2 !CHAOS as a service	2		PU	Last Month
M3.2	LabVIEW® and Tango compatibility layers at driver and/or GUI level	3	P	PP	Last Month
M3.3	Integration of !CHAOS in LabVIEW® framework	3	P	PP	Last Month
D3.1	Realization of a control system dedicated to ESCO use case	3	O	PU	Last Month
D3.4	Prototype of critical elements of FP control system	3	P	PU	Last Month
D 4.1	ESCO HRP	4	P	PU	Last Month
D 4.2	FP HRP	4	P	PU	Last Month
D 4.3	Prototypes hub and gateway	4	P	PU	Last Month
M 5.4	Qualification, testing and documentation	5	O	PU	Last Month
D 5.1	Implementation of a cloud based infrastructure	5	P	PU	Last Month
D1.1	Final management report, edited in accordance with the reporting guidelines	1	R	PU	End of project + 90 days

WP2 SOFTWARE DEVELOPMENT TASK

	Month					
	1-2	3-4	5-6	7-8	9-10	10-12
WP 2 SOFTWARE DEVELOPMENT TASK						
Task 2.1 Common Framework	development & integration	development & integration	development & integration	development & integration	development & integration	test and qualification
Task 2.2 Metadata Service	development & integration	development & integration	development & integration	development & integration	development & integration	test and qualification
Task 2.3 Live and History Data Services	development & integration	development & integration	development & integration	development & integration	development & integration	test and qualification
Task 2.4 Control Unit, Execution Unit and User Interface	development & integration	development & integration	development & integration	development & integration	development & integration	test and qualification

	design & preparatory phase
	development & integration
	test and qualification

WP3 FRONT END DRIVERS TASK

	Month					
WP 3 FRONT END DRIVERS TASK	1-2	3-4	5-6	7-8	9-10	10-12
Task 3.1 !CHAOS implementation for ESCO	Red	Blue	Blue	Blue	Blue	Green
Task 3.2 !CHAOS implementation for FP	Red	Red	Blue	Blue	Blue	Green
Task 3.3 LabVIEW® & Tango compatibility layer	Red	Red	Red	Blue	Blue	Blue

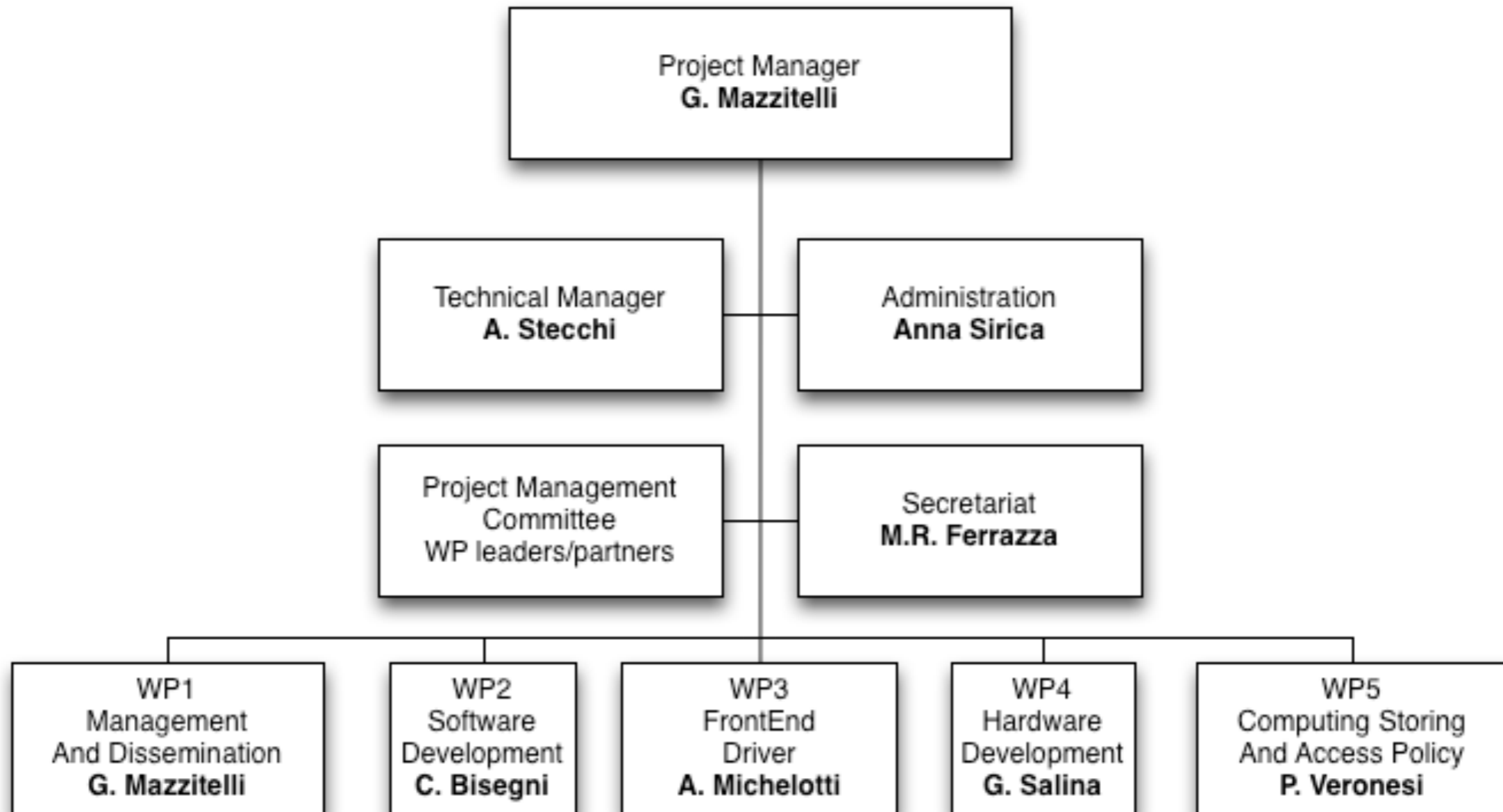
WP4 HARDWARE DEVELOPMENT TASK

	Month					
	1-2	3-4	5-6	7-8	9-10	10-12
WP 4 HARDWARE DEVELOPMENT TASK						
Task 4.1 ESCO HRP implementation	Red	Blue	Blue	Blue	Blue	Green
Task 4.2 FP HRP implementation	Red	Red	Blue	Blue	Blue	Green
Task 4.3 Identification of the operating standards for wired and wireless network connections	Red	Blue	Blue	Blue	Blue	Green
Task 4.4 General purpose HRP	Red	Red	Red	Blue	Blue	Blue

WP5 COMPUTING, STORING AND ACCESS POLICY TASK

	Month					
WP 5 COMPUTING, STORING AND ACCESS POLICY TASK	1-2	3-4	5-6	7-8	9-10	10-12
Task 5.1 Identify applications and user requirements, implement the IaaS infrastructure						
Task 5.2 Extension of the infrastructure providing PaaS capabilities and Grid core services						
Task 5.3 Web portal and Access Policies						

Management Structure



Overall budget

WP/(k€)	Personnel	Subcont.	Consum.	Equipm.	Infrastr.	Overheads	Other	Total
WP1	172.5	10	4	2	0	0	18	206.5
WP2	262.5	0	4	23	0	0	44	333.5
WP3	262.5	0	1	49	0	0	11	323.5
WP4	272	10	30	172	0	0	14	498
WP5	185.5	5	7	70	120	0	12	399.5
Total Costs	1155	25	44	297	120	0	69	1761
FOE 7%	1056	25	44	212	120	0	65	1522
Incoming	99	0	2	104	0	0	34	239
% of Costs	66%	1%	3%	18%	7%	0	6%	100%
Contribution FOE (k€)								1522

Budget details

WP	genere (FTE)				Laboratori Nazionali di Frascati								personi* mese			
	uomini (staff)	donne (staff)	under 35	FTE	Pesonale (keuro)	Prestazione di terzi (keuro)	Materiali (keuro)	Attrezzature (keuro)	Infrastrutture (keuro)	Spese generali (keuro)	Altre tipologie (keuro)	Totale (keuro)				
WP1		1	0,5	1	2,5	106,5	10	4	2		8	130,5	30		55 keuro/anno	
WP2		3,6		2	5,6	246		2	4		12	264	67,2		24 keuro/anno	
WP3		2,7		1	3,7	172,5		1	42		8	223,5	44,4			
WP4		0,5		0	0,5	27,5		10	50		2	89,5	6		percentuale	importo keuro
WP5		0,5		0	0,5	27,5		2	5	30	2	66,5	6		assegnato	591,17
Totale		8,3	0,5	4	12,8	580	10	19	103	30	32	774	153,6		50,85	300,63
Sezione INFN di Tor Vergata (e Univ. Tor Vergata)																
WP1		0,2			0,2	11					2	13	2,4			
WP2		0,3			0,3	16,5					2	18,5	3,6			
WP3					0	0						0	0			
WP4		1		1	2	79			14		4	97	24			
WP5					0	0						0	0			
Totale		1,5	0	1	2,5	106,5	0	0	14	0	8	128,5	30		8,44	49,91
Sezione INFN di Perugia (e Univ. Camerino)																
WP1		0,2			0,2	11					2	13	2,4			
WP2					0	0						0	0			
WP3					0	0						0	0			
WP4		0,7		2	2,7	86,5	10	20	28		6	150,5	32,4			
WP5					0	0						0	0			
Totale		0,9	0	2	2,9	97,5	10	20	28	0	8	163,5	34,8		10,74	63,51
INFN-CNAF																
WP1		0,2			0,2	11					2	13	2,4			
WP2					0	0						0	0			
WP3					0	0						0	0			
WP4					0	0						0	0			
WP5		1,7		2	3,7	141,5	5	5	25	90	8	274,5	44,4			
Totale		1,9	0	2	3,9	152,5	5	5	25	90	10	287,5	46,8		18,89	111,67
Sezione INFN di Padova																
WP1					0	0						0	0			
WP2					0	0						0	0			
WP3					0	0						0	0			
WP4					0	0						0	0			
WP5		0,3			0,3	16,5					2	18,5	3,6			
Totale		0,3	0	0	0,3	16,5	0	0	0	0	2	18,5	3,6		1,22	7,19
Laboratori Nazionali del Sud																
WP1		0,2			0,2	11					2	13	2,4			
WP2					0	0						0	0			
WP3		0,3		1	1,3	40,5			2		1	43,5	15,6			
WP4		0,5		1	1,5	51,5			40		2	93,5	18			
WP5		0			0	0						0	0			
Totale		1	0	2	3	103	0	0	42	0	5	150	36		9,86	58,26
National Instruments (Incoming)															100,00	