



Project

Fab@Hospital

Flagship Project

La Fabbrica del Futuro

Subproject S2

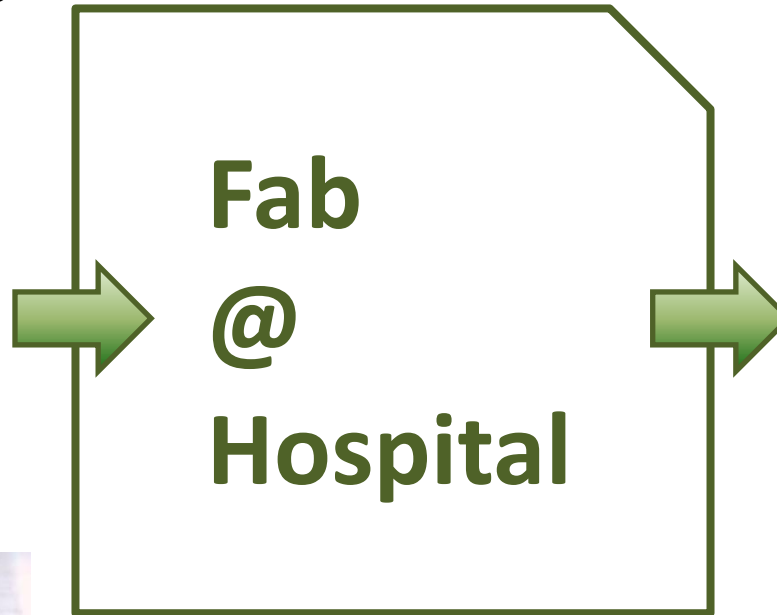
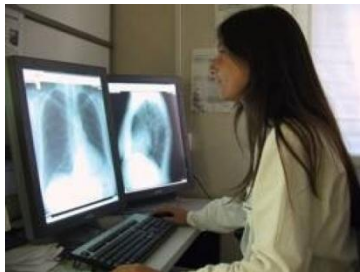
Kick off meeting

Milan, February 20, 2014

PROJECT PRESENTATION

Objectives

Doctors' demands for
personalized prostheses
or tool for pre-operative
patient specific planning



Personalized prostheses



Pre-operative patient
specific tool



Objectives



**Fab
@
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AIMS

- Produce personalized prosthes and pre-operative patient specific tools
- Produce in reasonable times
- Produce at sustainable cost

CHALLENGES

- Define the anatomofunctional characteristics of the artifact (geometrical and mechanical properties), also considering the associated uncertainty
- Define the most effective production process by integrating several technologies (3D printer and micro machining)
- Business model to prove efficacy and sustainability

Objectives (from the proposal)



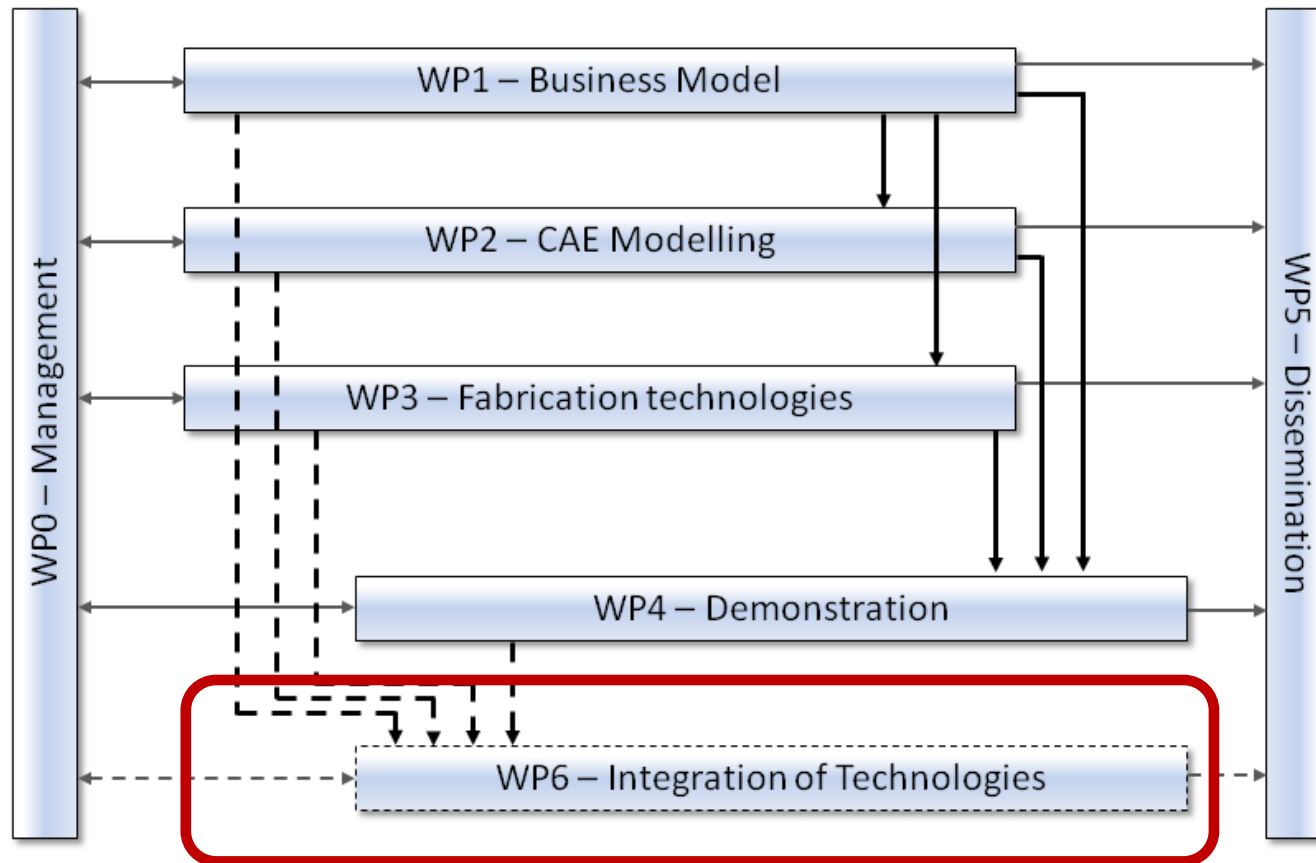
- ① Propose new viable business models for personalized medical products implying new business processes for hospitals, products manufacturers and technology providers, compliant with health care systems safety, certification requirements and ethical regulations.
Define new statistical methods and approaches to elaborate an accurate anatomical model from bio-images in order to design personalized products.
- ② Define improvements to the existing technologies for personalized products, mainly additive manufacturing and micro-EDM, in order to lower production costs, thus allowing the wide diffusion of personalized medical products.

Objectives (from the proposal)



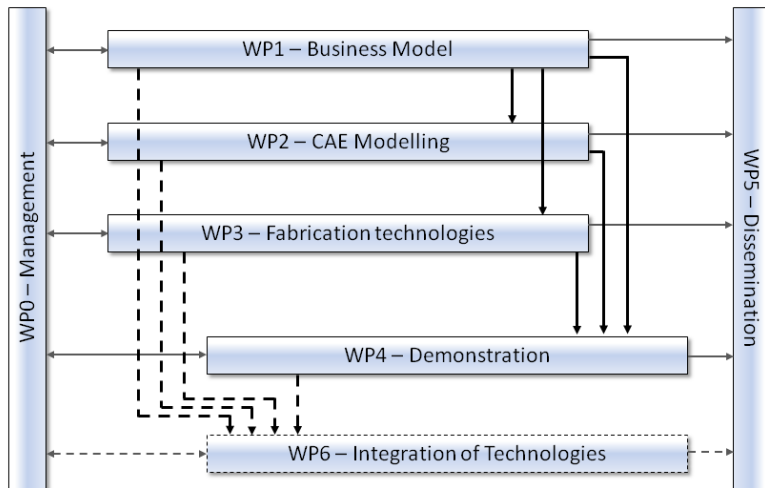
- ③ Propose innovative process combinations and manufacturing approaches, mainly considering additive manufacturing and micro-EDM technologies, in order to lower production costs, thus allowing the wide diffusion of personalized medical products.
- ④ Demonstrate the new technological approaches in real products and medical scenarios, provided by hospitals and companies of the Industrial Interest Group.

Work plan



Additional WP in case of extra funding

Work plan



**From January 2014
To December 2014
(even if communication
received on February 3)**

WP	WP leader	M 1	M 2	M 3	M 4	M 5	M 6	M 7	M 8	M 9	M 10	M 11	M 12
0	IMATI	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑
1	ITIA	☑	☑	☑	☑	☑	☑	☑	☑	☑			
2	IMATI	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑		
3	UNIPV		☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	
4	UNIPV							☑	☑	☑	☑	☑	☑
5	IMATI	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑
6	ITIA									☑	☑	☑	☑

Interest group

No.	Name of the industrial interest group member	Name of contact person
I1	OVERMACH SpA	Giacomo Cacciani
I2	Sarix SA	Franck Leleu
I3	I.R.C.C.S. Policlinico San Donato	Santi Trimarchi
I4	I.R.C.C.S. Policlinico San Matteo	Andrea Pietrabissa
I5	Azienda USL della Valle d'Aosta	Raffaella Pagano

Industrial partners



Clinical partners

SARIX



POLICLINICO SAN DONATO
ISTITUTO DI RICOVERO E CURA A CARATTERE SCIENTIFICO



FONDAZIONE
IRCCS POLICLINICO "SAN MATTEO"
Istituto di Ricovero e Cura a Carattere Scientifico di diritto pubblico
C.F. 00303490189 - P. IVA 00580590180
V.le Golgi, 19 - 27100 PAVIA
Tel. 0382 5011

WP1



Work package number	WP 1		Start month	1	End month	9					
Project year 1 or additional WP¹	year 1										
Activity type²	RTD										
Work package title	Business model										
Work package leader	ITIA										
Partner number	3	2	1								
Partner short name	ITIA	UNIPV	IMATI								

WP3



Work package number	WP 3	Start month	2	End month	11
Project year 1 or additional WP¹	Year 1				
Activity type²	RTD				
Work package title	Fabrication technologies				
Work package leader	UNIPV				
Partner number	3	2			
Partner short name	UNIPV	ITIA			

WP4



Work package number	WP 4		Start month	7	End month	12					
Project year 1 or additional WP¹	year 1										
Activity type²	DEM										
Work package title	Demonstrator										
Work package leader	UNIPV										
Partner number	3	1	2								
Partner short name	UNIPV	IMATI	ITIA								

WP5



Work package number	WP 5	Start month	1	End month	12						
Project year 1 or additional WP¹	year 1										
Activity type²	OTHER										
Work package title	Dissemination										
Work package leader	IMATI										
Partner number	1	2	3								
Partner short name	IMATI	ITIA	UNIPV								

Additional WP6



Work package number	WP 6	Start month	9	End month	12
Project year 1 or additional WP¹	additional WP				
Activity type²	RTD				
Work package title	Integration of technologies				
Work package leader	ITIA				
Partner number	3	2	1		
Partner short name	ITIA	UNIPV	IMATI		

Deliverables

Del. No ¹	Deliverable Name	WP No.	Nature ²	Dissemination level ³	Delivery date ⁴
D.0.1	Project presentation	0	R	PU	M 1
D.0.2	Report of the all the management and coordination activities, and respect of ethical issues	0	R	PP	M 12
D.1.1	New business models for personalized medical products	1	R	PP	M 8
D.1.2	Standardization, certification and ethical implication of new business models for personalized medical products	1	R	PP	M 9
D.2.1	Stochastic procedure to estimate mechanical properties	2	R	PU	M 3
D.2.2	Design process	2	R	PU	M 8
D.3.1	Report on enhanced 3D printing technologies and methods for model fabrication	3	R	CO	M 11
D.3.2	Report on enhanced microEDM technologies and methods for model fabrication	3	R	CO	M 11
D.4.1	Assessment of time and production costs, in the case of a small local company	4	R	CO	M 12
D.5.1	List of the activities for dissemination at industrial level	5	O	PU	M 12
D.5.2	List of papers and presentations at international conferences	5	O	PU	M 12
D.6.1	Technical Report on compounding of nano-enhanced polymeric materials	6	R	CO	M 12
D.6.2	Anatomo-functional model - Demonstrator	6	D	PU	M 12

Most of deliverables required starting from August 2014 (M 8)

D.0.1
Project presentation
Required at month 1

D.2.1
Stochastic procedure
Required at month 3

Proposals for dissemination



- Project website
www.mi.imati.cnr.it/Fab@Hospital
- Project desk at the ESB-ITA (Italian Section of the European Society of Biomechanics) meeting, hosted in Pavia, June 27, 2014
- Project workshop at Policlinico San Donato (December 2014 ?) to present the outcomes of the Project

Budget



Items of expenditure		Limits on total project costs ²	Budget for the "main project" (for each partner)			Total costs per item	Percentage on total project cost
			CNR IMATI	CNR ITIA	UNIPV		
Staff costs ³	Permanent staff ⁴	min 40%	32000,0	37000,0	31000,0	100000,0	40,09 %
	Fixed-term staff ⁵	max 10%	0,0	0,0	0,0	0,0	0,00 %
Training costs and scholarship ⁶			19000,0	23000,0	19000,0	61000,0	24,46 %
Overhead ⁷		max 20%	14712,5	18962,5	16212,5	49887,5	20,00 %
Equipment, devices and software products costs ⁸			2000,0	12000,0	7000,0	21000,0	8,42 %
Travel costs ⁹			1000,0	1000,0	1000,0	3000,0	1,20 %
Scientific consulting costs ¹⁰			0,0	0,0	0,0	0,0	0,00 %
Other services provided by third party ¹¹			0,0	0,0	0,0	0,0	0,00 %
Dissemination costs ¹²			1000,0	1000,0	1000,0	3000,0	1,20 %
Yearly project conference participation costs ¹³		min 1%	850,0	850,0	850,0	2550,0	1,02 %
Other costs ¹⁴			3000,0	1000,0	5000,0	9000,0	3,61 %
Market research and industrial planning costs ¹⁵			0,0	0,0	0,0	0,0	0,00 %
TOTAL COSTS			73562,5	94812,5	81062,5	249437,5	100,00 %

Approved Budget

**2/3 now
1/3 end of project**

Budget



Items of expenditure		Limits on total project costs ¹⁶	Budget for "additional WP" (for each partner)			Total costs per item	Percentage on total project cost
			CNR IMATI	CNR ITIA	UNIPV		
Staff costs ¹⁷	Permanent staff ¹⁸	min 40%	8500,0	10000,0	9000,0	27500,0	42,11 %
	Fixed-term staff ¹⁹	max 10%	0,0	0,0	0,0	0,0	0,00 %
Training costs and scholarship ²⁰			0,0	0,0	0,0	0,0	0,00 %
Overhead ²¹		max 20%	2562,5	5812,5	4687,5	13062,5	20,00 %
Equipment, devices and software products costs ²²			500,0	12000,0	3000,0	15500,0	23,73 %
Travel costs ²³			500,0	500,0	500,0	1500,0	2,30 %
Scientific consulting costs ²⁴			0,0	0,0	0,0	0,0	0,00 %
Other services provided by third party ²⁵			0,0	0,0	0,0	0,0	0,00 %
Dissemination costs ²⁶			0,0	0,0	0,0	0,0	0,00 %
Yearly project conference participation costs ²⁷		min 1%	250,0	250,0	250,0	750,0	1,15 %
Other costs ²⁸			500,0	4500,0	2000,0	7000,0	10,72 %
Market research and industrial planning costs ²⁹			0,0	0,0	0,0	0,0	0,00 %
TOTAL COSTS			12812,5	34062,5	18437,5	65312,5	100,00 %

Additional Budget

For last WP in case of additional funding