



WP14 - task14.5

Lucio Rossi, CERN – task leader

Kick-off WP14, CERN, 8June 2017

W14 – timeline of deliverables and milestones

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14	Promoting Innovation (PI)																																									
14.1	Coordination and Communication			\top					Т		D										D										D										D	\square
14.2	Proof-of-Concept innovation fund			\perp							D																													\perp	\perp	\square
14.3	Collaboration with industry			Т				Т	Т		М			Т	П			Т			M						Т				М	Т	Т	П						\top	\top	\Box
14.4	Industries for resistant materials			\top				\top	Т					\perp							D											\Box								\perp	\perp	\square
14.5	HTS innovative process for accelerator magnet conductor			Т				Т	Т				М		П											D					М	Т	Т	П						\perp	\perp	\Box
14.6	Timing System for Industrial and Medical Applications								Ι		М				$oxed{\Box}$			M	ı			D												$oxed{\Box}$							D	\Box
24.0	Tilling System for measurar and medical Applications	\rightarrow	_	+	-	Н	\rightarrow	-	+	+	141	-	+	-	+	\vdash	_		_	Н	-	-	_	-	\rightarrow	\rightarrow	+	-	\vdash	\rightarrow	-	-	-	+	\vdash	\rightarrow	-	\vdash	\rightarrow	-	4	+

D14.1	Set-up of the Proof-of-Concept innovation- funding scheme	14.2	CERN	R	PU	M12
D14.2	Academia meets industry event 1	14.3	CERN	R	PU	M24
D14.3	Production of material samples of carbon- based composites and metal-diamond composites	14.4	CERN	DEM	PU	M24
D14.4	First long length industrial High Temperature Superconductor	14.5	CERN	DEM	PU	M30
D14.5	Real-time Event Distribution Network brought to openly accessible "product grade level"	14.6	COSYLAB	Other	PU	M46

MS42 → appointing IAB - M12

MS43 → 1st academia meets industry – M24

 $MS44 \rightarrow 2^{nd}$ academia meets industry – M36

MS45 → 1st HTS short length – M14

MS46 → characterization of 1st short long lenght – M36

MS47 → review requirements doc – M12

MS42 → review design and conf doc– M21



M12

M18

M8

W14 overall budget breakdown

Tasks (all costs in €)		Personnel direct costs	Travel direct costs	Equipment and consumabl	and costs		Material direct costs	Total direct costs	Total indirect costs**	Total costs (direct + indirect)	EC requested funding
Task 14.1	25.00	136'500.00	18'000.00	0.00	0.00	0.00	18'000.00	154'500.00	38'625.00	193'125.00	60'233.00
Task 14.2	32.00	141'700.00	13'000.00	0.00	250'000.00	0.00	263'000.00	404'700.00	101'175.00	505'875.00	266'737.50
Task 14.3	33.00	139'800.00	13'000.00	0.00	30'000.00	0.00	43'000.00	182'800.00	45'700.00	228'500.00	123'450.00
Task 14.4	15.00	66'000.00	13'000.00	160'000.00	20'000.00	0.00	193'000.00	259'000.00	64'750.00	323'750.00	160'562.50
Task 14.5	142.00	980'000.00	61'000.00	330'000.00	0.00	0.00	391'000.00	1'371'000.00	29'516.25	1'713'750.00	553'750.00
Task 14.6	21.00	100'065.00	18'000.00	0.00	0.00	0.00	0.00	100'065.00	342'750.00	129'581.25	100'000.00
Total	268.00	1'564'065.00	136'000.00	490'000.00	300'000.00	0.00	908'000.00	2'472'065.00	622'516.25	3'094'581.25	1'264'733.00

PoC = 250 Keuro, but there is commitment from PC to increase if possible 30 Keuro are for 2 industrial events 20 Keuro are for materials



W14 budget breakdown

Beneficiary short name*	Person - months	Monthly personnel costs	Personnel direct costs	Travel direct costs	Equipment and consumables	Other direct costs	Sub- contracting costs	Material direct costs	Total direct costs	Total indirect costs**	Total costs (direct + indirect)	EC requested funding
CERN	40.00	8'000.00	320'000.00	30'000.00	0.00			30'000.00	350'000.00	87'500.00	437'500.00	0.00
STFC	0.00	5'800.00	0.00		0.00			0.00	0.00	0.00	0.00	0.00
CEA	20.00	6'000.00	120'000.00	15'000.00				15'000.00	135'000.00	33'750.00	168'750.00	0.00
CNI	0.00	3'500.00	0.00					0.00	0.00	0.00	0.00	0.00
Wigner	0.00	2'000.00	0.00					0.00	0.00	0.00	0.00	0.00
Bizz Brevetti	0.00	3'500.00	0.00					0.00	0.00	0.00	0.00	0.00
RHP	0.00	3'500.00	0.00					0.00	0.00	0.00	0.00	0.00
BHTS	50.00	5'800.00	290'000.00	5'000.00	240'000.00			245'000.00	535'000.00	133'750.00	668'750.00	334'375.00
UT	20.00	6'500.00	130'000.00	8'000.00	45'000.00			53'000.00	183'000.00	45'750.00	228'750.00	114'375.00
UNIGE	12.00	10'000.00	120'000.00	3'000.00	45'000.00			48'000.00	168'000.00	42'000.00	210'000.00	105'000.00
COSYLAB	0.00	4'765.00	0.00	0.00							0.00	0.00
Total	142.00	59'365.00	980'000.00	61'000.00	330'000.00	0.00	0.00	391'000.00	1'371'000.00	342'750.00	1'713'750.00	553'750.00

No Budget from EU for CERN and CEA Approx. 330 kE for BHTS, 105 kE for UNIGE and 115 kE for U.Twente



Keeping together the community of EuCARD2

- Continuing the series of workshop WAMHTS
- By organizing around CERN
 a collaboration with same +
 new partners of Eucard2 for
 use the tape in REBCO.
- Offer opportunity to BHTS to improve above EuCARD2.
- Test new companies
 - THEVA (De)
 - Deutch nansheet (De)
 - Oxlutia (Es)



WAMHTS-4 in Barcelona, Feb 2017



Organization

- Coordination: L. Rossi (CERN) & Th. Lecrevisse (CEA)
- BHTS: A. Usoskin
- UniGE: C. Senatore
- U. Twente: M. Dhallé
- Call for names from all Institutes! Please send to Valerie (CC to Thibault and myself)

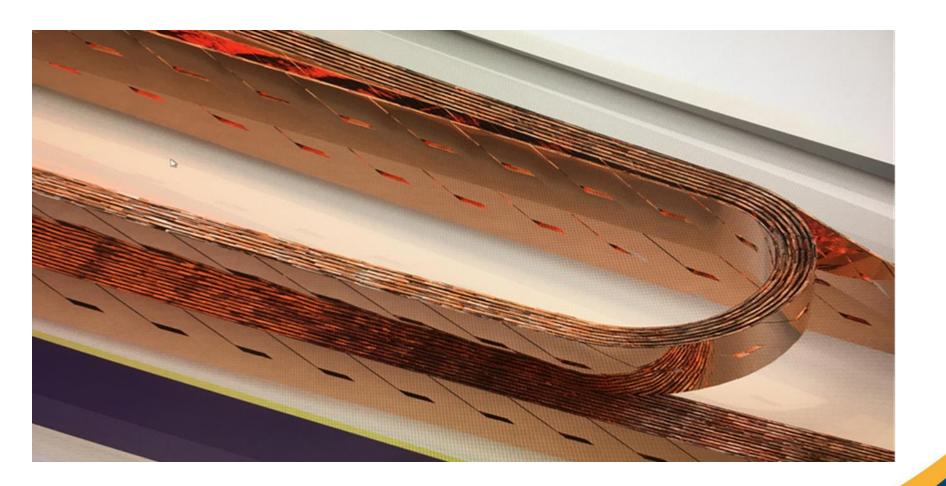


Scope of the work

- Set up the new process in Bruker to:
 - Increase by a factor 2 the Je w.r.t. Eucard2: from Je= 400-600 A/mm²@ 20 T-4.2K to Je= 800-1200 A/mm²@ 20 T-4.2K
- Produce in Bruker some 600+ m of tapes
- Use in a winding at CERN/CEA (very much like Eucard2)
- Reduce the cost by a factor two in the production (at Bruker)
- UniGE and U.Twente are committed to characterize the electric, magnetic and mechanical properties (also Je vs pressure) as well as quench propagation test.
- The number of measurement is comparable to Eucard2
- The program probably is over in 2 year.
- Task 14.5 kick off meeting :TODAY



Will we continue to use Roeble cable?





Recap on activity focused on Roebel cable

- EuCARD2: 650-700 m of BHTS tape for F0 and F2 magnets
- EuCARD2 complement: some 650 m of tapes from other producers (SOx/Sunam, SP, Fujikura)
- Extended Eucard2 program: 650 m of BHTS tapes (12 mm) ordered by CERN to BHTS: same high quality of last Eucard2 production Je < 600-800 A/mm2 @19 T 4.2K
- Use of ARIES is maybe open; we need to launch a discussion after the conference period. Roeble may be the best choice but to be verified after test of FM-2 with BHTS cable.

