

SAFETRAIN - Overview of the consortium

Partner		Type	Role	Country	Activity	Function
Name	N°					
SOR	1	IND/5	C	PT	Railway manufacturer	End user/developer
ERRI	2	ROR	P	NL	Research centre	Developer
SNCF	3	IND/7	P	FR	Railway operator	End user/developer
BRR	4	IND/4	P	GB	Railway research centre	Developer
DB	5	IND/7	P	DE	Railway operator	End user Developer
PKP	6	IND/7	P	PO	Railway operator	End user/Manufacturer impact test performer
IST	1A1	EDU	AP	PT	University	Developer
FMH	1A2	EDU	AP	PT	University	Developer
GEC/MC	4A2	IND/6	AP	GB	Railway manufacturer	End user/developer
CIC	4A1	ROR	AP	GB	Research centre	Developer
UVHC	3A1	EDU	AP	FR	University	Developer
DD	3A3	IND/6	AP	FR	Railway manufacturer	Manufacturer
GEC/CIMT	3A2	IND/6	AP	FR	Railway manufacturer	End user/developer
IFS	5A1	ROR	AP	DE	Research Institute	Developer
TUD	5A2	EDU	AP	DE	University	Developer
SIE	5A3	IND/5	AP	DE	Railway manufacturer	End user/developer
DWA	5SC	IND/6	SC	DE	Railway manufacturer	End user Manufacturer

Project plan - Bar-Chart

Task	Name	Year 1				Year 2				Year 3				Year 4			
		Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
1	Review of accidents. Representative accidents																
2	Analysis of train rakes																
2.1	Benchmark testing of computer models																
2.2	Crashworthy train rakes analysis																
2.3	Effect of Crashworthy trains on existing stock																
3	Review of vehicle override																
4	Design and test specification																
5	Design and manufacture of vehicles																
5.1	Initial design & Task coordination																
5.2	Mathematical modelling																
5.3	Component testing																
5.4	Detailed design																
5.5	Manufacture																
6	Improved passenger and crew safety																
6.1	Initial definitions & Task coordination																
6.2	Review of vehicle interior																
6.3	Review of crew accommodation																
6.4	Representative collision pulse																
6.5	Determination of injury criteria																
6.6	Passenger mathematical modelling																
6.7	Mathematical modelling (crew)																
6.8	Sled testing																
6.9	Full scale collision testing																
7	Static crush tests																
8	Dynamic tests																
8.1	Specification of measurements																
8.2	Dynamic tests																
9	Analysis of tests																
10	Review and standards																
10.1	Project review																
10.2	Proposals for standards																
11	Coordination and project management																
	MILESTONES					①				②						③	
	PROGRESS REPORTS		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Project plan - Man-hours matrix

Task	Name	Partner n°																	TOTAL
		1	2	3	4	5	6	1A1	1A2	3A1	3A2	3A3	4A1	4A2	5A1	5A2	5A3	5SC	
1	Review of accidents. Representative accidents	1	1	13	7	1										3			26
2	Analysis of train rakes	1		1				20		10									32
2.1	Benchmark testing of computer models	1		1															2
2.2	Crashworthy train rakes analysis									10									10
2.3	Effect of Crashworthy trains on existing stock							20											20
3	Review of vehicle override		0,5	1	3														4,5
4	Design and test specification	1,5	1	2	2	0,5					1	1			1,5				10,5
5	Design and manufacture of vehicles	39,5	1	2,5	10	4	32	11			19,5	19,5		21	1,5		14,5	27	203
5.1	Initial design & Task coordination	3,5	1	2,5	6	1					1	1			1,5		1,5		19
5.2	Mathematical modelling							11			6	12		14					43
5.3	Component testing	10			4									7					21
5.4	Detailed design	26															13		39
5.5	Manufacture					3	32				12,5	6,5						27	85,5
6	Improved passenger and crew safety	2	1	2	7				10		0,5	0,5	15						38
6.1	Initial definitions & Task coordination		1		3														4
6.2	Review of vehicle interior	1							5										6
6.3	Review of crew accommodation	1							5										6
6.4	Representative collision pulse												3						3
6.5	Determination of injury criteria												4						4
6.6	Passenger mathematical modelling												8						8
6.7	Mathematical modelling (crew)				4														4
6.8	Sled testing			1								0,5							1,5
6.9	Full scale collision testing			1							0,5								1,5
7	Static crush tests	6																	6
8	Dynamic tests	1	2	1	0,5	19	23								10		1		57,5
8.1	Specification of measurements	1	1	1	0,5	1													4,5
8.2	Dynamic tests		1			18	23								10		1		53
9	Analysis of tests			8	5	1													14
10	Review and standards	1	2	3,5	2,5	1					1	1							12
10.1	Project review		1	2,5	1,5						1	1							7
10.2	Proposals for standards	1	1	1	1	1													5
11	Coordination and project management	6	3	4	3	4													20
	TOTALS	59	11,5	38	40	30,5	55	31	10	10	22	22	15	21	13	3	15,5	27	423,5

SUMMARY OF PARTNER COST BREAKDOWN (KECU)

PARTNERS (abbreviated names)	1	2	3	4	5	6	1A1	1A2	3A1	Total
	SOR	ERRI	SNCF	BRR	DB	PKP	IST	FMH	UVHC	
Labour	170.0	60.0	265.0	380.0	148.0	250.0	112.6	50	25.0	
Equipment	-	-	-	-	-	-	15.0	-	-	
External Services	-	40.0	150.0	4.0	432.0	74.0	-	-	39.0	
Travel & Subsistence	32.0	30.0	35.0	48.0	31.0	55.0	30	10	10.0	
Consumables	210.0	10.0	75.0	57.0	75.0	250.0	10	10	10.0	
Other costs (e.g. computing ...)	-	-	-	33.0	4.0	-	50	-	-	
Overheads	180.0	60.0	115.0	40.0	96.0	190.0	54.4	10	20.0	
TOTAL	592.0	200.0	640	562.0	786.0 *	819.0	272	80	104	
Requested EC Funding	296.0	100	320	281.0	293.0	-	272	80	104	
%	50	50	50	50	50		100	100	100	
Man-months	59	11,5	38.0	40	30.5	55	31	10	10	
* Including costs of subcontractor SSC										

SAFETRAIN - Costs Breakdown (2 pages)

SUMMARY OF PARTNER COST BREAKDOWN (KECU) *

PARTNERS (abbreviated names)	3A2	3A3	4A1	4A2	5A1	5A2	5A3	55C	Total	
	GEC/CIMT	DD	CIC	GEC/MC	IFS	TUD	SIE	DWA		
Labour	105.0	120.0	42.8	56.0	62.0	20.0	74.0	130.0		
Equipment	-	-	-	-	-	-	-	-		
External Services	-	-	9.0	1.0	-	-	-	-		
Travel & Subsistence	30.0	30.0	14.0	12.0	14.0	-	9.0	10.0		
Consumables	20.0	10.0	3.0	7.0	50.0	-	5.0	174.0		
Other costs (e.g. computing ...)	10.0	-	27.0	5.0						
Overheads	35.0	40.0	64.2	64.0	42.0	4.0	50.0	86.0		
TOTAL	200.0	200.0	160.0	145.0	168.0	24.0	138.0	400.0 *		5090
Requested EC Funding	100.0	100.0	80.0	72.5	84.0	24.0	69.0			2375.5
%	50	50	50	50	50	100	50			46,67
Man-months	22	22	15	21	13	3	15,5	27		423,5
* Included in Partner 5 costs.										