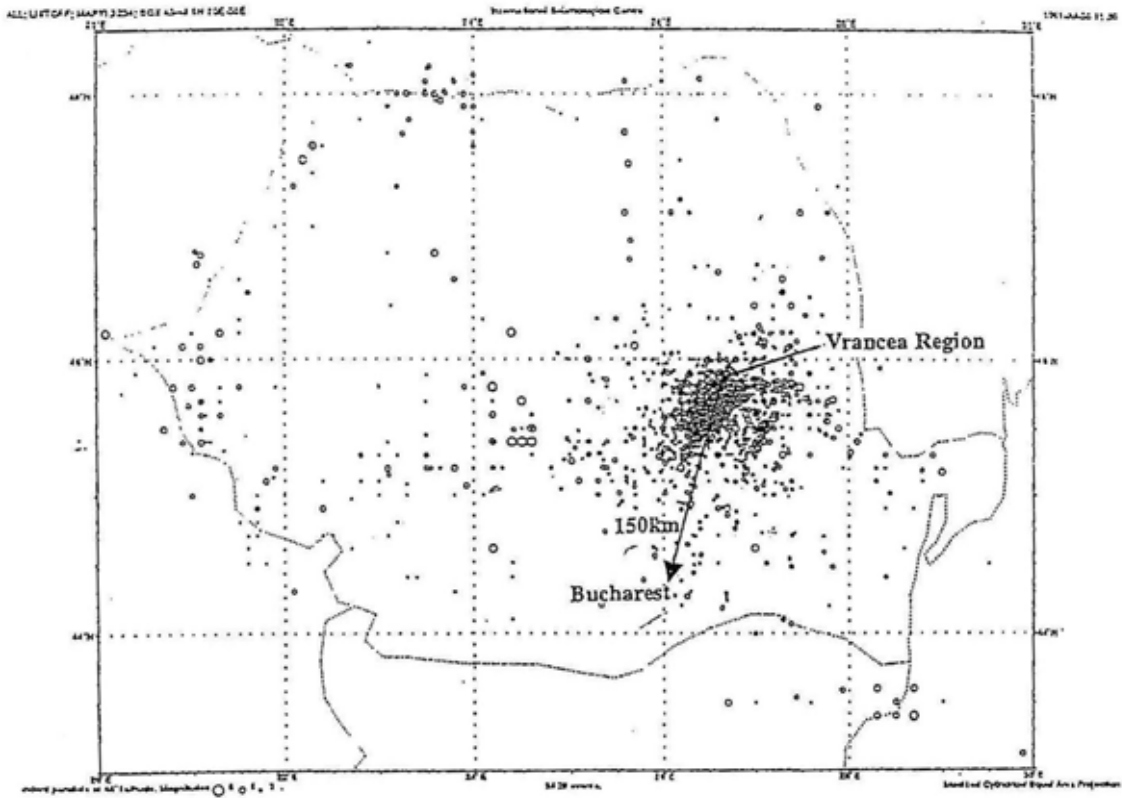


Main Equipment List

ANNEX 7-10

	Equipment	Field of Activity	Usage
1-1	Strong Motion Accelerograph	Strong Motion Observation	Evaluation of Input Earthquake
1-2	Bore-hole Sensor	Strong Motion Observation	Evaluation of Input Earthquake
1-3	Bore-hole Transmitter	Strong Motion Observation	Evaluation of Input Earthquake
1-4	External Sensor	Strong Motion Observation	Evaluation of Input Earthquake
2-1	Boring Machine	Soil Testing, Ground Investigation	Ground Investigation
2-2	Boring Pump	Soil Testing, Ground Investigation	Ground Investigation
2-3	Boring Tool	Soil Testing, Ground Investigation	Ground Investigation
2-4	Standard Penetration Testing Machine	Soil Testing, Ground Investigation	Ground Investigation
2-5	Data Collection System	Soil Testing, Ground Investigation	Testing of Ground Condition
2-6	Down-hole Sensor	Soil Testing, Ground Investigation	Testing of Ground Condition
2-7	Ground Surface Sensor	Soil Testing, Ground Investigation	Testing of Ground Condition
2-8	Micro-tremor Data Collection System	Soil Testing, Ground Investigation	Testing of Ground Condition
2-9	Micro-tremor Sensor	Soil Testing, Ground Investigation	Testing of Ground Condition
2-10	Data Analysis Software	Soil Testing, Ground Investigation	Testing of Ground Condition
2-11	Tri-Axial Testing Machine	Soil Testing, Ground Investigation	Indoor Soil Testing
2-12	Bender-Element Testing Machine	Soil Testing, Ground Investigation	Indoor Soil Testing
2-13	Physical Characteristics Testing System	Soil Testing, Ground Investigation	Indoor Soil Testing
2-14	Data Collection/Analysis System	Soil Testing, Ground Investigation	Indoor Soil Testing
2-15	Carrying Vehicle	Soil Testing, Ground Investigation	Testing Vehicle
3-1	Reaction Frame	Structural Testing	Loading Facility
3-2	Hydraulic Jack	Structural Testing	Loading Facility
3-3	Power Pump Unit	Structural Testing	Loading Facility
3-4	Hydraulic Pump / Controller	Structural Testing	Loading Control
3-5	Control Computer / Software	Structural Testing	Loading Control
3-6	Data Logger	Structural Testing	Measurement System
3-7	Switch Box	Structural Testing	Measurement System
3-8	Load Cell	Structural Testing	Measurement System
3-9	Displacement Scale	Structural Testing	Measurement System
3-10	Computer / Software for Measurement	Structural Testing	Measurement System
3-11	Dynamic Strain Scale	Structural Testing	Measurement System
3-12	Measurement Frame	Structural Testing	Measurement System

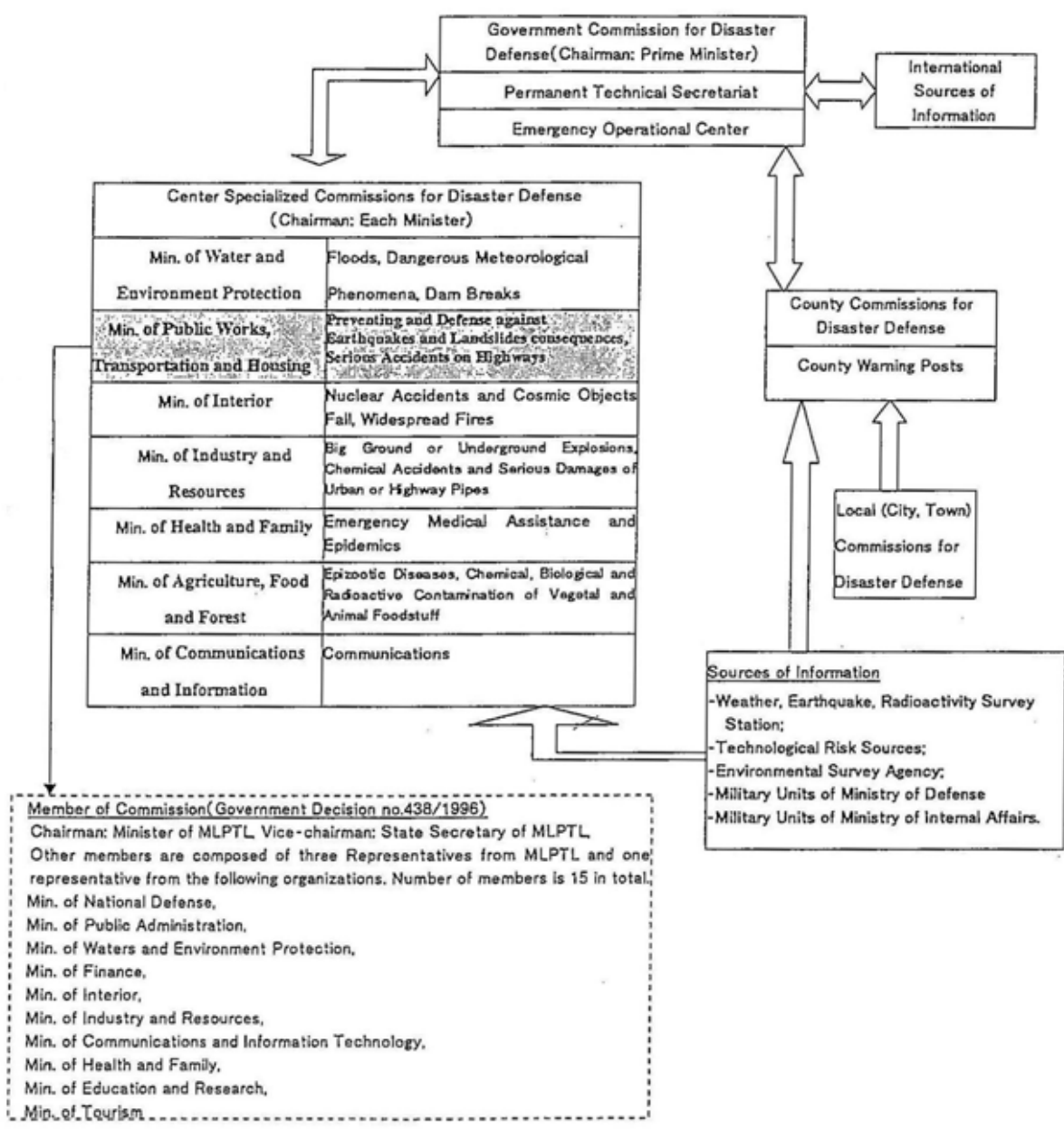
Earthquake Epicenters in and around Romania :984-1988:



*M. M.*

*J. S.*

Organization Chart of Disaster Prevention Countermeasures



*M...*

*ASW*

Buildings with more than 5 stories built before 1940 in Bucharest and identified as having highest risk of collapse in case of strong (comparable to 1977) earthquake\* (Buildings numbered 1 through 10 are accepted retrofitting works by their residents.)

No	Address	Year of building construction	Commercial occupancy of ground floor	Stores	No. of Apt.	Total area sqm.	Damages after the 1977 earthquake in structural elements	Repairing work after the 1977 earthquake	SD*	Designer	P100- earthquake capacity ratio Long-Term
1	Balcescu 24 (Pierikide)	1928	Yes	13	61	12197	Columns : Extreme Beams : Extreme Masonry : Extreme	Jackering of columns and beams Masonry Repairs Epoxy resins injections, Mortar injections, Finishes	100	IPCT	0.024
2	Doinnei 5	1934	Yes	11.5	25	2750	Columns : Light Beams : Light Masonry : .		21	-	0.10
3	Basilei 5	1938	Yes	11	21	3680	Columns : Light Beams : Light Masonry : Light	Jackering of columns Masonry Repairs	25	-	0.10
4	Calca Victoriei 101 A-B	1937	Yes	11	61	6111	Columns : Extreme Beams : Extreme Masonry : .	Jackering of columns Masonry Repairs Epoxy resins injections	86	IPU	0.15
5	Heidman 1	1940	Yes	10	80	8020	Columns : Medium Beams : Medium Masonry : Extreme	Masonry Repairs	57	ICMPC	0.09
6	Magheru 20	1935	Yes	10	52	5484	Columns : . Beams : Light Masonry : Light	Masonry Repairs Epoxy resins injections Mortar injections	11	-	0.16
7	Brezoiului 44	1940	-	10	28	2607	Columns : Light Beams : Light Masonry : Light	Masonry Repairs	25	IPROME T	0.27
8	Bozianu 3A	1936	-	9.5	30	4997	Columns : Light Beams : Light Masonry : .	Jackering of columns and beams	21	ISLGC	0.15
9	Eforie 8	1940	Yes	9.5	58	4806	Columns : Extreme Beams : Light/ Medium	Jackering of one column	70.5	-	0.14
10	Maria Iliescu 55	1934	-	9.5	20	2209	Masonry : . Columns : Light Beams : Light	Masonry Repairs Mortar injections	36	-	0.29
11	Magheru 27	1935	Yes	9.5	36	6405	Masonry : Extreme Columns : Light Beams : .	Jackering of columns	14	-	0.15
12	Calca Victoriei 2-4	1928	Yes	9	76	12994	Columns : Light Beams : Medium Masonry : .	Masonry Repairs	29	-	0.102
13	Ion Ghica 3	1938	Yes	9	53	5835	Columns : Light Beams : Light Masonry : Light		25	-	0.15

\*  $D_r$  damage score for fragile buildings is based on the damage methodology proposed by Gulkan, 1994

No	Address	Year of building construction	Commercial occupancy of ground floor	Storeys	No. of Apt.	Total area sqm.	Damages after the 1977 earthquake in structural elements	Repairing work after the 1977 earthquake	SD	Designer	P100- earthquake capacity ratio Long-Trans.	P100- earthquake capacity ratio Trans.
14	Republicii 47	1934	-	9	23	2784	Columns : Light Beams : Light Masonry : Medium		29	-	0.178	0.36
15	Timor Arghiezi 26	1939	Per	9	26	7627	Columns : Light Beams : Light Masonry : Medium	Masonry Repairs Epoxy resins injections	29	-	0.1	0.1
16	Calea Victoriei 128A	1935	Per	9	22	6675	Columns : Extreme Beams : Extreme Masonry : Extreme	Jackering of columns and beams Masonry Repairs	100	IPCT	0.15 0.17	0.12 0.18
17	Republicii 86	1939	-	9	18	3230	Columns : - Beams : - Masonry : -	Masonry Repairs Finishes	4	-	0.2	0.2
18	Al Xenopol 3	1940	-	9	19	4451	Columns : Light Beams : Extreme Masonry : Medium Masonry : Extreme	Jackering of columns and beams Masonry Repairs Epoxy resins injections Mortar injections	86	ICPMC	0.15	0.15
19	Brezoiului 6	1936	Per	9	31	1086	Columns : Light/ Medium Beams : Light/ Medium Masonry : Medium Masonry : Extreme	Masonry Repairs	56.5	-	0.11	0.11
20	Calea Victoriei 112	1939	Per	9	27	5210	Columns : Extreme Beams : Extreme Masonry : Extreme	Jackering of 4 columns Masonry Repairs Epoxy resins injections	100	ICPHL	0.08	0.07
21	Iuliu Barash 12	1936	-	7.5	16	1640	Columns : Light Beams : Light Masonry : Light	Jackering of columns and one beam	25	-	0.14	0.14
22	Ion Campianescu 22	1938	Per	9	39	3929	Columns : Extreme Beams : - Masonry : -	*Partial collapse in 1940	57	-	0.17	0.19
23	Sperantei 24	1940	-	9	11	1680	Columns : - Beams : - Masonry : -	Masonry Repairs	7	-	0.185	0.52
24	Sirbei Voila 17	1936	Per	9	58	6140	Columns : Medium Beams : Medium Masonry : Light	Masonry Repairs Epoxy resins injections	43	-	0.197	0.196
25	Dr. Marcovici 9	1934	-	9	41	8783	Columns : Light Beams : Light Masonry : Extreme	Masonry Repairs	36	IPJ Mures	0.2	0.2
26	Griutei 31	1930	Per	8.5	24	3683	Columns : - Beams : Light Masonry : Light	Masonry Repairs Epoxy resins injections	11	-	0.155	0.155
27	Calea Victoriei 208	1940	Per	8.5	44	5200	Columns : Extreme Beams : Medium Masonry : Extreme	Jackering of beams Masonry Repairs Epoxy resins injections	86	-	0.194	0.159
28	J. Mihalachi 1	1937	Per	8.5	17	2065	Columns : Extreme Beams : Medium Masonry : Extreme	Jackering of columns Masonry Repairs Epoxy resins injections Mortar injections	86	IPCT	0.10	0.15
29	Kogalniceanu 97	1943	-	8	43	6120	Columns : - Beams : - Masonry : Extreme	Masonry Repairs	77	-	0.20	0.05

No	Address	Year of building construction	Commercial occupancy of ground floor	Storeys	No. of Apt.	Total area sqm.	Damages after the 1977 earthquake in structural elements	Repairing work after the 1977 earthquake	SD	Designer	P100- earthquake capacity ratio Long. Trans.
30	Calcea Victoriei 139	1934	Yes	8	30	1290	Columns : Light Beams : Light Masonry : Medium	Masonry Repairs	29	-	0,135 0,15
31	J.I. Calderon 59	1935	-	9	19	3680	Columns : Light Beams : Light Masonry : Extreme	Jacketing of columns Masonry Repairs	36	IPIU	0,07 0,14
32	Mantaleasa 42	1932	-	8	30	4232	Columns : Extreme Beams : Light/ Medium Masonry : Extreme	Jacketing of columns	85,5	-	0,15 0,15
33	Stim 6	1935	Yes	8	32	5700	Columns : Extreme Beams : Extreme Masonry : Extreme	Jacketing of columns Masonry Repairs	105	-	0,17 0,17
34	Sipatul Fantinilor 5	1938	-	8	30	3100	Columns : Light Beams : Light Masonry : -	Masonry Repairs *partially collapsed in 1977	21	-	0,16 0,16
35	Dionisie Lupu 53	1937	-	8	13	2461	Columns : Light Beams : Light/ Medium Masonry : Light	Jacketing of columns and beams Epoxy resins injections	31,5	-	0,25 0,18
36	Hristo Botev 3	1923	Yes	8	14	4625	Columns : - Beams : Light/ Medium Masonry : Light	Masonry Repairs Epoxy resins injections	17,5	IPIB	0,2 0,2
37	Pocanaru Borcea 12-14	1937	-	8	24	2831	Columns : Light Beams : Light Masonry : Light	Jacketing of walls Masonry Repairs	25	-	0,114 0,05
38	Smardan 18	1940	Yes	8	31	7273	Columns : Light Beams : Light Masonry : Light	Masonry Repairs Finishes	25	-	0,2 0,2
39	Sârbei Voia 16	1934	Yes	8	23	4414	Columns : Light/ Medium Masonry : Medium	Jacketing of columns Masonry Repairs	56,5	-	0,111 0,108
40	Hoteant 311	1935	-	8	26	5596	Columns : Light Beams : Light/ Medium Masonry : Extreme	Jacketing of 6 columns Epoxy resins injections	28,5	-	0,104 0,276
41	Pocanaru Borcea 16	1936	-	8	30	3100	Columns : Extreme Beams : Light Masonry : -	-	64	-	0,22 0,248
42	Dacia 9	1938	-	8	17	1435	Columns : - Beams : Light/ Medium Masonry : Medium	* Partially consolidated in 1979	20	Trustal Carpai	0,12 0,12
43	Lahovari 5A	1935	Yes	8	18	2955	Columns : Extreme Beams : Extreme Masonry : Extreme	Jacketing Masonry Repairs Epoxy resins injections Mortar injections	100	IPIB	0,18 0,18

No	Address	Year of building construction	Commercial occupancy of ground floor	Storeys	No. of Apt.	Total area sqm.	Damages after the 1977 earthquake in structural elements	Repairing work after the 1977 earthquake	SD	Designer	19100- earthquake capacity ratio Long-Trans.
44	Ion Campineanu 9	1915	Yes	7.5	25	3141	Columns : - Beams : - Masonry : Extreme	Masonry Repairs Finishes	77	-	0.04
45	Nicolae Iorgh 22	1939	-	7.5	31	3140	Columns : Extreme Beams : Light Masonry : Extreme	Jacking of columns and beams Masonry Repairs	79	IPCT	0.10
46	Poiana Narcisului 5	1929	-	7.5	22	2914	Columns : Extreme Beams : Light Masonry : Extreme	Jacking of columns Masonry Repairs Finishes	21	ISLGC	0.154
47	J. Michelet 2-6	1940	Yes	7.5	12	1905	Columns : - Beams : Extreme Masonry : Extreme	Masonry Repairs Epoxy resins injections Finishes	43	-	0.159
48	Pilar Mox 27	1936	-	7.5	26	2722	Columns : Extreme Beams : Medium Masonry : -	Jacking of columns Masonry Repairs	71	-	0.11
49	Pilar Mox 29	1936	-	7.5	59	4639	Columns : Extreme Beams : Extreme Masonry : -	Jacking of columns and beams	86	-	0.15
50	Aurel Vlaicu 39	1940	-	7	36	5041	Columns : Extreme Beams : Extreme Masonry : Extreme	Jacking of columns and beams	100	IPB ,UTC B	0.11
51	Vasile Lascar 18	1937	-	7	35	5041	Columns : Light Beams : Light Masonry : -	Jacking of 2 columns Epoxy resins injections	21	IPH	0.1
52	Vasile Lascar 26-28	1937	Yes	7	28	3080	Columns : Extreme Beams : Extreme Masonry : -	Masonry Repairs	86	ICRAL	0.095
53	Iuliu Blatin 9	1910	Yes	7	45	5116	Columns : - Beams : - Masonry : Extreme	Masonry Repairs	77	IPCT	0.125
54	Spatariului 1	1935	-	7	17	1870	Columns : Light Beams : - Masonry : -	Jacking of columns	14	-	0.23
55	Poianicani 5	1936	-	7	44	5239	Columns : - Beams : - Masonry : Extreme	Masonry Repairs Finishes	14	-	0.15
56	Mihai Eminescu 28	1938	Yes	7	10	1671	Columns : Light Beams : Light Masonry : Light	Masonry Repairs	25	-	0.11
57	Stelea Spatarul 17	1937	-	7	53	4125	Columns : Extreme Beams : Extreme Masonry : Medium	Jacking of 4 columns and one beam Masonry Repairs	93	-	0.15
58	Tudor Arghezi 54	1924	Per	7	19	2756	Columns : Extreme Beams : Extreme Masonry : Extreme		100	-	0.23
59	Mihai Voda 15	1914	Per	7	15	1878	Columns : - Beams : - Masonry : Light	* Partial consolidated in 1978	19	-	0.13
60	Pilitii 6	1930	-	6.5	12	1690	Columns : Light Beams : Light Masonry : -	Finishes	28.5	-	0.2

No	Address	Year of building construction	Commercial occupancy of ground floor	Storeys	No. of Apt.	Total area sqm.	Damages after the 1977 earthquake in structural elements	Repairing work after the 1977 earthquake	SID	Designer	P100- earthquake capacity ratio Long. Trans.
61	Baleceu 25 (Wilson)	1928	Yes	12	93	12287	Columns: Extreme Beams: Extreme Masonry: Extreme	Jacketing of columns and beams Masonry Repairs Epoxy resins injections, Mortar injections Finishes * partially collapsed in 1977	105	IIB	0.16
62	Mosilor 131	1938	Yes	6.5	29	1868	Columns: - Beams: - Masonry: Light		19	-	0.224
63	Republicii 63	1937	Yes	6.5	16	1764	Columns: - Beams: - Masonry: Medium	Masonry Repairs	38	-	0.147
64	Ursoiului 5	1930	-	6.5	12	1615	Columns: - Beams: - Masonry: Medium/Extreme	Masonry Repairs Finishes	76	-	0.09
65	Calea Victoriei 124	1900	Yes	6.5	28	3045	Columns: - Beams: - Masonry: Light/Medium	Masonry Repairs	37	-	0.10
66	Ostasilor 4	1927	-	6	18	2832	Columns: - Beams: - Masonry: Medium	Masonry Repairs Mortar injections	38	-	0.043
67	Ionin Masnu 52	1934	Yes	6.5	25	6070	Columns: Light Beams: Light Masonry: Light	Masonry Repairs Finishes	25	-	0.20
68	Dionisie Lupu 55	1936	-	6.5	13	1410	Columns: Extreme Beams: Extreme Masonry: Extreme	Jacketing Masonry Repairs Epoxy resins injections	100	ISPIE-M AIA	0.15
69	Al. Sabina 2	1910	Yes	6	22	3745	Columns: - Beams: - Masonry: Light	Masonry Repairs	19	-	0.20
70	Biserica Ene 14	1936	Yes	6	29	2775	Columns: - Beams: - Masonry: Medium	Masonry Repairs	38	-	0.45
71	Blancari 14	1935	Yes	6	40	2645	Columns: Medium Beams: Medium Masonry: Medium		50	-	0.43
72	Dianei 2	1930	Yes	6	12	1320	Columns: - Beams: - Masonry: Medium	Epoxy resins injections	42	-	0.09
73	J.L. Chileron 61	1930	-	6	13	2404	Columns: Medium Beams: Medium Masonry: Medium	Jacketing of columns and beams	50	-	-
74	Lipscani 94	1930	Yes	6	16	2107	Columns: Medium Beams: Medium Masonry: Medium		50	-	0.74
75	Palcolega 3	1936	-	6	20	3414	Columns: Extreme Beams: Extreme Masonry: Extreme	Masonry Repairs Finishes	100	-	0.132
76	Salcamii 12	1936	-	6.5	18	2396	Columns: - Beams: - Masonry: -	Masonry Repairs	0	-	0.16



No	Address	Year of building construction	Commercial occupancy of ground floor	Storeys	No. of Apt.	Total area sqm.	Damages after the 1977 earthquake in structural elements	Repairing work after the 1977 earthquake	SD	Designer	P100- earthquake capacity ratio
77	Vulturilor 25	1935	-	6	20	2061	Columns : - Beams : Medium Masonry : Medium	Masonry Repairs Finishes	21	-	0.05 0.07
78	Bocsa 3	1932	-	6	25	2875	Columns : - Beams : - Masonry : Medium		38	-	0.1 0.3
79	Brezoiului 38	1934	-	6	7	1600	Columns : Light Beams : - Masonry : -	Masonry Repairs Finishes	18	-	0.1 0.1
80	Sapientiei 1	1930	Yes	6	22	2189	Columns : Light Beams : Light Masonry : -	Masonry Repairs Epoxy resins injections	21	-	0.107 0.107
81	Vasaleri 1	1938	-	6	8	918	Columns : Light Beams : Light Masonry : Light		25	-	0.199 0.110
82	Grivitei 107-109	1934	Yes	6	44	5200	Columns : - Beams : - Masonry : -		0	IPB	0.185 (A) 0.3 (B)
83	Nicolae Iorga 31	1936	-	6	19	1720	Columns : Light/ Medium Beams : Light/ Medium Masonry : Light	Jacking of 2 columns and one beam Masonry Repairs Epoxy resins injections	29	IPSCAIA	0.10 0.11
84	Gh. Marinescu 3	1940	-	7	20	1750	Columns : Extreme Beams : Extreme Masonry : Extreme	Jacking of walls Masonry Repairs	100	-	0.18 0.24
85	Mosilor 42	1930	Yes	5.5	4	442	Columns : - Beams : - Masonry : -	Masonry Repairs	19	-	0.465 0.05
86	C.A. Rosetti 25	1933	Yes	9	36	7000	Columns : Light Beams : Medium Masonry : Medium	Masonry Repairs	43	-	0.2 0.2
87	Luchian 12	1933	Yes	5.5	8	1409	Columns : - Beams : - Masonry : -	Finishes	19	-	0.12 0.135
88	St Vineri 5	1933	-	5.5	17	1299	Columns : Light Beams : - Masonry : -	Epoxy resins injections	7	-	0.1 0.1
89	Hellerie 11	1936	-	5.5	10	1295	Columns : Medium Beams : Light Masonry : Light		25	-	0.1 0.1
90	Biserica Anzei 8	1935	-	5.5	20	2081	Columns : Light Beams : Light Masonry : Light	Epoxy resins injections	25	-	0.31 0.26
91	Calea Victoriei 25	1936	Yes	13	49	6078	Columns : Extreme Beams : Extreme Masonry : Extreme	Jacking of 6 columns Epoxy resins injections	100	TCC	0.36 0.36
92	Calea Victoriei 95	1938	Yes	10.5	51	4010	Columns : Extreme Beams : Extreme Masonry : Extreme	Jacking of columns and beams	100	IPCT	0.14 0.147

No	Address	Year of building construction	Commercial occupancy of ground floor	Storeys	No. of Apt.	Total area sqm.	Damages after the 1977 earthquake in structural elements Columns : Beams : Masonry :	Repairing work after the 1977 earthquake	SD	Designer	P100- earthquake capacity ratio Long. Trans.
93	Goleseu Nicolae 5	1938	Yes	10	21	1766	Medium Light Medium		42,5	IPB	0.142 0.232
94	Baicescu 32-34	1935	Yes	10	41	6996	Light Medium Light Medium	Masonry Repairs	42,5	-	0.17 0.202
95	Baicescu 30	1936	Yes	9,5	25	2756	Extreme	Masonry Repairs Epoxy resins injections Finishes	64	-	0.16 0.13
96	Mihai Huminescu 17	1937	Yes	8,5	40	6063	Medium Light Light	Masonry Repairs	25	IPROMIE T	0.2 0.2
97	Kogalniceanu 43	1937	-	8	16	1740	Light Light Extreme	Jacketing of columns and beams	36	-	0.29 0.49
98	Kogalniceanu 49	1938	-	8	83	13670	Light Light Light	Jacketing of columns Masonry Repairs Finishes	25	-	0.31 0.48
99	Bratiana 5	1936	Yes	7,5	24	2050	Medium Medium Medium	Jacketing of columns and beams Epoxy resins injections	50	-	0.08 0.09
100	Nicolae Baicescu 7	1933	Yes	7	15	2730	Light Light Extreme	Masonry Repairs Epoxy resins injections	36	IPB-1978	0.196 0.111
101	Musilor 96	1900	Yes	6,5	11	2114	Light Light Medium	Masonry Repairs	28,5	-	0.13 0.13
102	Luchian 3	1936	-	6,5	9	2067	Medium Extreme	Jacketing of columns Masonry Repairs	70,5	-	0.08 0.08
103	George Ionescu 21	1932	-	6,5	12	1331	Extreme Light		21	-	0.117 0.105
104	Calca Victoriei 33-35	1930	Yes	6,5	39	4800	Medium Medium Medium	Jacketing of columns Masonry Repairs	50	-	0.24 0.24
105	Caimitel 18	1936	-	6	13	2073	Light Light Light		21	-	0.697 0.125
106	Laszar Calargiu 15A	1934	-	6	17	2351	Medium Medium Extreme	Jacketing of columns	57	-	0.25 0.15
107	Menuleev 17	1935	Yes	7	47	7022	Light Light		21	ICRAL Hensbau	0.08-0.33 0.08-0.19

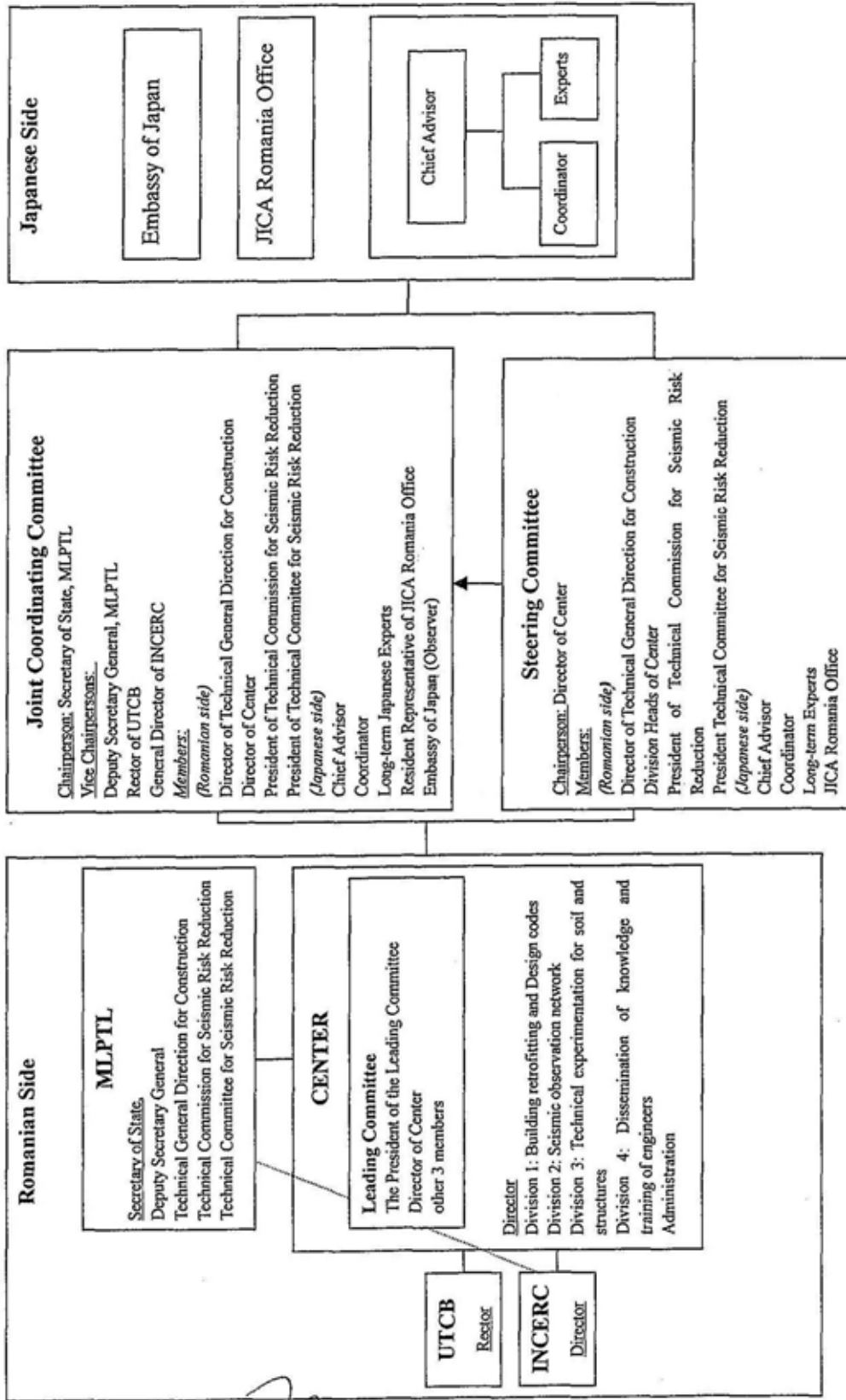
No	Address	Year of building construction	Commercial occupancy of ground floor	Storeys	No. of Apt.	Total area sqm.	Dannages after the 1977 earthquake in structural elements Columns : Beams : Masonry :	Repairing work after the 1977 earthquake <i>Jacking of columns</i>	SID*	Designer	P100- earthquake capacity ratio	
											Long.	Trans.
108	Semilumiei 8	1935	-	6	6	1300	Medium Light Medium	<i>Jacking of columns</i>	42,5	-	0,1	0,14
109	Armeniasca 28	1935	-	6	6	1280	Medium Light	<i>Jacking of columns</i>	36	-	0,14	0,17
110	Armeniasca 28A	1935	-	6	8	1071	Extreme Beams : Masonry :		57	-	0,13	0,21
111	Arcului 4*	1932	-	8	26							
112	Iuliu Maniu 22*	1875	-	4,5	3							
113	Londra 16-20*	1924	-	5,5	104							
114	Magheru 12-14*	1929	Yes	9,5	54							
115	Carol I 51*	1929	-	9	30							

\* Information to be added

A damage score for the fragile building structures from the list of 115 buildings in Bucharest was computed with a simplified version of the damage methodology proposed by Gulkan (1994), *Middle East Technical University, Ankara, Turkey.*

SD varies from 0 to 100. The damage vulnerability classes can be selected based on SD score.

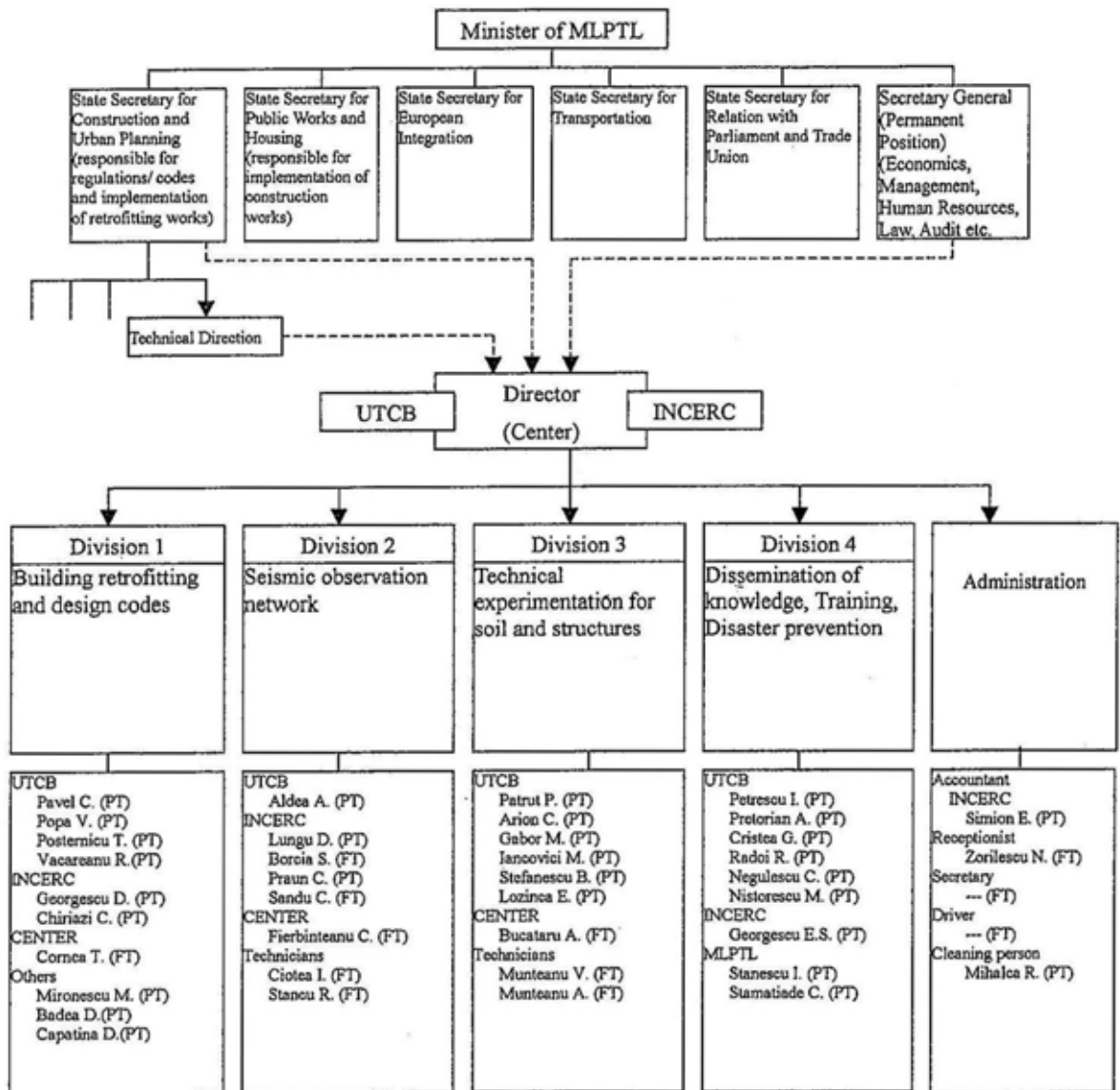
Project implementing organization structure



*M.*

*J.*

Chart of organizational structure for Project management



*Mu*

*Arui*

## Annex 7-11-6

INCERC's facilities concerning the Project and their current conditions

## FACILITIES WHICH ARE IN OPERATION(SEISMIC TESTING HALL)

No	Name of equipment	Amount (number of pieces)	Specification (technical characteristics )	Condition -working -maintenance	Remarks
1.	The large capacity reaction wall	1	testing area: 24x24 meters height of the wall: 12 meters max. horizontal loads: 40-50 mN max. overturning moment: 200-250 mNm	needs: -a great variety of servo-actuators -equipment for the pumping station -load cells -strain gauges	Wall is in operation. Equipment to be upgraded.
2.	Loading devices, hydraulic jacks, pumping unit, mechanical devices data acquisition facilities				Devices and facilities to be upgraded.

## FACILITIES IN STRUCTURAL TESTING LABORATORY OF INCERC BUCHAREST

FACILITIES WHICH ARE NOT IN OPERATION(SEISMIC TESTING HALL)

No.	Name of equipment	Amount (number of pieces)	Specification (technical characteristics in the project of facilities)	Condition -working -maintenance	Remarks
3.	The small shaking table	1	plan dimensions: 3x3 meters shaking table mass: 12 tones max. model mass: 5 tones horizontal displacement: $\pm 150$ mm vertical displacement: $\pm 50$ mm horizontal velocity: 1,2 m/sec vertical velocity: 0,6 m/sec horizontal acceleration: 38 m/sec <sup>2</sup> bandwidth: 0.2- 40 hz	Needs: -8 horizontal and 4 vertical actuators -equipment for the pumping station and adequate oil lines for the hydraulic network -safe systems -automated control systems	It is not in operation.
4.	The large shaking table	1	plan dimensions: 6x6 meters shaking table mass: 55 tones max. model mass: 60 tones horizontal displacement: $\pm 150$ mm vertical displacement: $\pm 50$ mm horizontal velocity: 1,2 m/sec vertical velocity: 0,6 m/sec horizontal acceleration: 24 m/sec <sup>2</sup> bandwidth: 0.5- 35 hz	Needs: -8 horizontal and 4 vertical actuators -equipment for the pumping station and adequate oil lines for the hydraulic network -safe systems -automated control systems	It is not in operation. It was never finished.

List of Participants of the PCM Workshop (discussed by two groups)

Group A

Prof. D. Lungu (General Director, INCERC)  
Mr. C. Stamatiade (Vice Director, Tech. Direction for Construction, MLPTL)  
Mr. T. Cornea (IPCT S.A.)  
Mr. C. Arion (UTCB)  
Dr. D. Capatana (General Director, IPCT S.A.)  
Mr. D. Badea (Technical Director, PROJECT Bucharest)  
Mr. C. Balan (IPCT S.A.)

Group B

Mr. I. Stanescu (General Director, MLPTL)  
Dr. D. Georgescu (Scientific Director, INCERC)  
Dr. S. Demetriu (UTCB)  
Dr. R. Vacareanu (UTCB)  
Mr. A. Aldea (UTCB)  
Mr. C. Balan (IPCT)  
Prof. Radu Petrovici (Univ. of Architecture, Bucharest)  
Mr. M. Mironescu (Miro Group)  
Dr.E.S. Georgescu (Head of Seismic Risk Assessment and Disaster Precaution Laboratory, INCERC)

Notice: INCERC: National Institute for Building Research, MLPTL: Ministry of Public Works, Transports and Housing, IPCT S.A.: (Private Design Company), UTCB: Technical University of Civil Engineering, Bucharest, PROJECT Bucharest (Private Design Company)



Tentative Staff List Categorized by Output and Activity of PDM

Output 1 (Leader: Vacareanu, R. Assoc. prof. dr.)(UTCB, D1, PT)

1.1	Postelnicu, T., Prof. dr. (UTCB, D1, PT) Capatina (D1, PT)	Cornica, T. (UTCB, D1, FT) Baiea D. (Project Bucuresti, D1, PT)	Gabor, M., Prof. dr. (UTCB, D1, PT) Stancescu, L. (MLPTL, D1, PT)	Pavel, C., prof. dr. (UTCB, D1, PT) Mirontes c u, M. (D1, PT)
1.2	Prof. D. Lungu (INCERC, PM, FT) Tomoiata Gh., (MLPTL, D4, PT)	Cornica, T. (UTCB, D1, PT) Baiea D. (Project Bucuresti, D1, PT) Mirontes c u, M. (D1, PT)	Gabor, M., Prof. dr. (UTCB, D1, PT) Stamatiale, C., (MLPTL, D4, PT) Capatina (D1, PT)	Pavel, C., prof. dr. (UTCB, D1, PT) Stancescu, L. (MLPTL, D1, PT)
1.3	Ariton, C. (UTCB, D2, FT) Iancovici, M., Asis. prof. (UTCB, D3, PT) Vacareanu, R. Assoc. prof. dr. (UTCB, D1, PT)	Cornica, T. (UTCB, D1, FT) Pavel, C., prof. dr. (UTCB, D1, PT)	Cristea, Gh., Prof. dr. (UTCB, D4, FT) Popa, V., asist. prof. (UTCB, D3, PT) Felix, O. (INCERC, D2, FT) Capatina (D1, PT)	Gabor, M., Prof. dr. (UTCB, D1, FT) Postelnicu, T., Prof. dr. (UTCB, D1, FT) Georgescu, D., Dr. (INCERC, D3, PT)
1.4	Postelnicu, T. (UTCB, D1, FT) Vacareanu, R. Assoc. prof. dr. (UTCB, D1, PT)	Gabor, M., Prof. dr. (UTCB, D1, FT) Georgescu, D. Dr. (INCERC, D3, PT)	Pavel, C., prof. dr. (UTCB, D1, PT) Baiea, D. (Project Bucuresti, D1, PT)	Postelnicu, T., Prof. dr. (UTCB, D1, PT) Stamatiale, C., (MLPTL, D4, PT)
1.5	Stancescu, L. (MLPTL, D1, PT)	Mirontes c u, M. (D1, PT) Iancovici, M., Asis. prof. (UTCB, D3, PT) Tomoiata, Gh., (MLPTL, D4, PT)	Capatina (D1, PT) Pavel, C., prof. dr. (UTCB, D1, PT) Georgescu, E. S. Dr. (INCERC, D4, PT)	Postelnicu, T., Prof. dr. (UTCB, D1, PT)

\*Number 1-1-1.5 indicates Activity number of PDM.

Output 2 (Leader: Pavel, C., prof. dr.)(UTCB, D1, PT)

2.1	Prof. D. Lungu (INCERC, PM, FT) Pavel, C., prof. dr. (UTCB, D1, PT) 1 electronic engineer (FT)	Cozofana D., Asist. prof. (UTCB, D3, PT) Popa, V., asist. prof. (UTCB, D3, PT)	Gabor, M., Prof. dr. (UTCB, D1, PT) Vacareanu, R. Assoc. prof. dr. (UTCB, D1, PT)	Iancovici, M., Asis. prof. (UTCB, D3, PT) 2 technicians (FT)
2.2	Cozofana D., Asist. prof. (UTCB, D3, PT) Popa, V., asist. prof. (UTCB, D3, PT)	Gabor, M., Prof. dr. (UTCB, D1, PT) Vacareanu, R. Assoc. prof. dr. (UTCB, D1, PT)	Iancovici, M., Asis. prof. (UTCB, D3, PT) 2 technicians (FT)	Pavel, C., prof. dr. (UTCB, D1, PT) 1 electronic engineer (FT)
2.3	Aldea, A., Lecturer (UTCB, D3, FT) Iancovici, M., Asis. prof. (UTCB, D3, PT) Vacareanu, R. Assoc. prof. dr. (UTCB, D1, FT)	Cornica, T. (UTCB, D1, FT) Pavel, C., prof. dr. (UTCB, D1, PT) Chirizoi, C. (INCERC, D1, FT)	Cozofana D., Asist. prof. (UTCB, D3, PT) Popa, V., asist. prof. (UTCB, D3, PT) Felix, O. (INCERC, D2, FT)	Cristea, Gh., Prof. dr. (UTCB, D4, PT) Postelnicu, T., Prof. dr. (UTCB, D1, PT) Georgescu, D., Dr. (INCERC, D3, PT)



	D 1 ,PT)			
2.4	Cristian, L., prof.dr.(UTCB, D1,PT) Arion, C. (UTCB, D2,PT) 1 or 2 geophysicists (FT)	Cheșanu, E., prof.dr.(UTCB, D1,PT) Borcia, C. (INCERC, D2,PT) 2 technicians (FT)	Sandru, C. (INCERC, D2,PT) 1 electronic engineer (FT)	
2.5	Aldea, A., Lecturer(UTCB, D3,PT)	Arion, C. (UTCB, D2,FT)	Denetriu, S., Assoc. prof. (UTCB, D2,PT)	1 or 2 geophysicists (FT)
2.6	Borcia, C. (INCERC, D2,PT) Arion, C. (UTCB, D2,FT)	Bucurariu, R. (INCERC, D3,PT) Bocanariu, R. (INCERC, D3,PT)	Sandru, C. (INCERC, D2,PT)	1 or 2 geophysicists (FT) 2 technicians(FT)
2.7	Aldea, A., Lecturer(UTCB, D3,PT)	Arion, C. (UTCB, D2,FT)	Bocanariu, R. (INCERC, D3,PT) Denetriu, S., Assoc. prof. (UTCB, D2,PT)	1 or 2 geophysicists (FT)
2.8	Aldea, A., Lecturer(UTCB, D3,PT)	Arion, C. (UTCB, D2,FT) Sandru, C. (INCERC, D2,PT)	Denetriu, S., Assoc. prof. (UTCB, D2,PT)	Borcia, C. (INCERC, D2,PT)
2.9	Aldea, A., Lecturer(UTCB, D3,PT)	Arion, C. (UTCB, D2,FT)		
2.10	Prof. D. Lungu( INCERC, PM, FT)	Aldea, A., Lecturer(UTCB, D3,PT) Vacareanu, R. Assoc. prof.dr.(UTCB, D 1,PT)	Arion, C. (UTCB, D2,FT) Sandru, C. (INCERC, D2,PT)	Cornea, T. (UTCB, D1,FT)
2.11	Prof. D. Lungu( INCERC, PM, FT)	Aldea, A., Lecturer(UTCB, D3,PT) Vacareanu, R. Assoc. prof.dr.(UTCB, D 1,PT)	Pavel, C. prof.dr.(UTCB, D1,PT) Stancu, I., (MLPTL, D1,PT)	Posichica, T., Prof. dr. (UTCB, D1,PT) Stancu, I., (MLPTL, D1,PT)
2.12	Cristea, Gh. Prof. dr. (UTCB, D4,PT)	Prof. D. Lungu( INCERC, PM, FT)	Aldea, A., Lecturer(UTCB, D3,PT)	Cornea, T. (UTCB, D1,FT)
		Denetriu, S., Assoc. prof. (UTCB, D2,PT)	Gabor, M., Prof. dr. (UTCB, D1,PT) Georgescu, D., Dr. (INCERC, D3,PT)	Posichica, T., Prof. dr. (UTCB, D1,PT)
		Vacareanu, R. Assoc. prof.dr.(UTCB, D 1,PT)	Georgescu, E.S., Dr (INCERC, D4,PT)	Baldea, D.(ProjectBucuresti, D1,PT)
		Stancu, I., (MLPTL, D1,PT)		

\*Number 2.1-2.12 indicates Activity number of PDM.

**Output 3(Leader: Georgescu, D., Dr. (INCERC, D3,PT)**

3.1	Cristea, Gh., Prof. dr.(UTCB, D4,PT) Georgescu, D., Dr. (INCERC, D4,PT)	Posichica, T., Prof. dr. (UTCB, D1,PT)	Chiriac, C. (INCERC, D1,FT)	Felix, O. (INCERC, D2,FT)
		Georgescu, E.S., Dr (INCERC, D4,PT)	Baldea, D.(ProjectBucuresti, D1,PT)	

3.2	Cristea, Gh., Prof. dr. (UTCB, D4,PT)	Gabor, M., Prof. dr. (UTCB, D1,PT)	Pavel, C. prof.dr.(UTCB,D1,PT) Georgescu, D., Dr. (INCERC, D3,PT)	Postolnicu, T., Prof. dr. (UTCB, D1,PT) Georgescu, E.S., Dr. (INCERC,D4,PT)
3.3	Chiriaci, C. (INCERC, D1,FT) Bucur, M(Prof.dr.Bucuresti,D1,PT)	Felix, O (INCERC, D2,FT)	Gabor, M., Prof. dr. (UTCB, D1,PT) Georgescu, E.S,Dr (INCERC,D4,PT)	Iancovici, M., Asis. prof. (UTCB, D3,PT) Stanescu, L. (MLPTL,D1,PT)
	Prof. D. Lungu(INCERC, P/M, FT) Postolnicu, T., Prof.dr.(UTCB, D1,PT)	Cristea, Gh, Prof. dr. (UTCB, D4,PT) Georgescu, D., Dr. (INCERC, D3,PT)		

\*Number 3.1-3.3 indicates Activity number of PDM.

Output 4 (I-leader: Georgescu, E.S., Dr.)(INCERC, D4,PT)

4.1	Paps, V., asis. prof. (UTCB, D3,PT) Stamatiade, C. (MLPTL,D4,PT)	Felix, O (INCERC, D2,FT)	Georgescu, E.S., Dr. (INCERC,D4,PT)
4.2	Prof. D. Lungu(INCERC, P/M, FT) Stamatiade, C., (MLPTL,D4,PT)	Paps, V., asis. prof. (UTCB,D3,PT) Tomolala, Gh., (MLPTL,D4,PT)	Georgescu, E.S., Dr. (INCERC,D4,PT)
4.3	Prof. D. Lungu(INCERC, P/M, FT) Stamatiade, C. (MLPTL,D4,PT)	Paps, V., asis. prof. (UTCB,D3,PT)	Georgescu, E.S., Dr. (INCERC,D4,PT)

\*Number 4.1-4.3 indicates Activity number of PDM.

\*\*FT: Full time PT: Part time, D1-4: Division 1-4, P/M: Project Manager