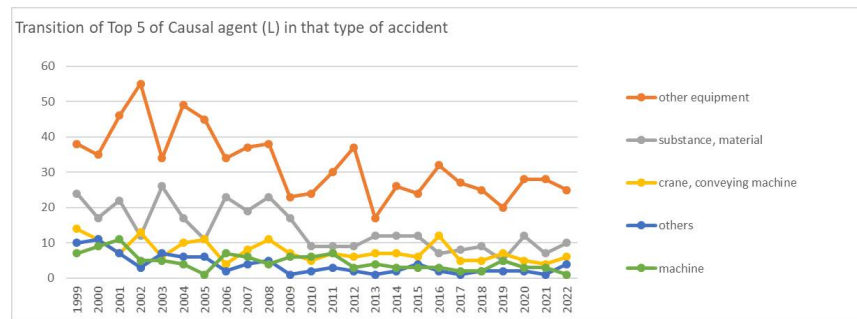
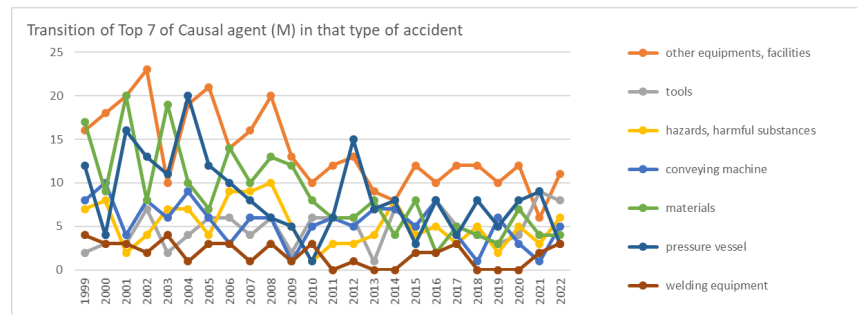


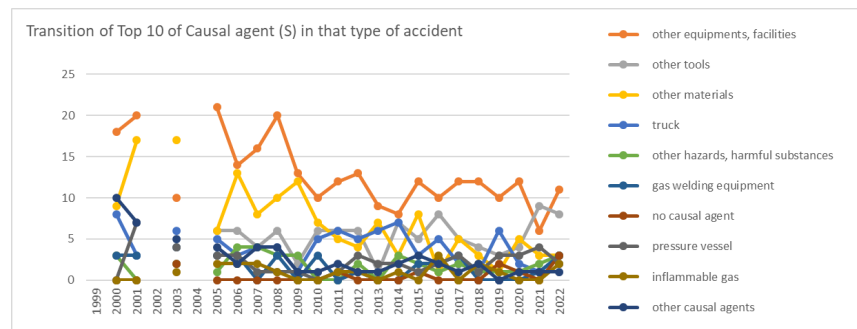
## Transition of Causal agent (L, M, S) of fatal & non-fatal accident (burst) in 1999-2022



## Transition of Causal agent (L) of fatal & non-fatal accident (burst) in 1999-2022



## Transition of Causal agent (M) of fatal & non-fatal accident (burst) in 1999-2022



## Transition of Causal agent (S) of fatal & non-fatal accident (burst) in 1999-2022

Transition of Causal agent (L) of fatal & non-fatal accident (burst) in 1999-2022

Causal agent (L)	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	total
other equipment	38	35	46	55	34	49	45	34	37	38	23	24	30	37	17	26	24	32	27	25	20	28	28	25	777
substance, material	24	17	22	12	26	17	11	23	19	23	17	9	9	9	12	12	12	7	8	9	5	12	7	10	332
crane, conveying machine	14	11	7	13	6	10	11	4	8	11	7	5	7	6	7	7	6	12	5	5	7	5	4	6	184
others	10	11	7	3	7	6	6	2	4	5	1	2	3	2	1	2	4	2	1	2	2	2	1	4	90
machine	7	9	11	5	5	4	1	7	6	4	6	6	7	3	4	3	3	3	2	2	5	3	3	1	110
load	1	1	1	1	7	3	2	5	1	2	1	2		2	2	1	3	4	1	1	1		1		43
environment	2						1						2	1		1	1					1			9
temporary buildings, establishments	1	1							1										1		2				6
total	97	85	94	89	85	89	77	75	76	83	55	48	58	60	43	52	53	60	45	44	42	51	44	46	1,551

Transition of Causal agent (M) of fatal & non-fatal accident (burst) in 1999-2022

Causal agent (M)	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	total
other equipments, facilities	16	18	20	23	10	19	21	14	16	20	13	10	12	13	9	8	12	10	12	12	10	12	6	11	327

tools	2	3	3	7	2	4	6	6	4	6	2	6	6	6	1	7	5	8	5	4	3	4	9	8	117
hazards, harmful substances	7	8	2	4	7	7	4	9	9	10	5	1	3	3	4	8	4	5	3	5	2	5	3	6	124
conveying machine	8	10	4	8	6	9	6	3	6	6	1	5	6	5	7	7	5	8	4	1	6	3	1	5	130
materials	17	9	20	8	19	10	7	14	10	13	12	8	6	6	8	4	8	2	5	4	3	7	4	4	208
pressure vessel	12	4	16	13	11	20	12	10	8	6	5	1	6	15	7	8	3	8	4	8	5	8	9	3	202
welding equipment	4	3	3	2	4	1	3	3	1	3	1	3		1			2	2	3				2	3	44
no causal agent					2								1				1				2	1		3	10
other causal agents	10	10	7	3	5	5	4	2	4	4	1	1	2	1	1	2	3	2	1	2		1	1	1	73
vehicle	4	1	3	5		1	4	1	2	3	5		1				1	4	1	4	1		2	1	44
metal manufacturing machine	1	1	1	1	3		1		1	1	1	1	2			2	1		1			2		1	21
general machine	5	7	6	3		2		4	5	3	2	3	3	3	3		2	3	1	2	3	1	3		64
load	1	1	1	1	7	3	2	5	1	2	1	2		2	2	1	3	4	1	1	1		1		43
chemical facilities	1	3	2	2	2	1	1		3	3	1	1	1	2		1	1	3	1			1	1		31
electric equipment	1	4	2	1	1	2	2	1	2			2	4			1							1		24
construction machine	1	1	3		1	2		3				3	2	1		1	1					2			21

kiln, caldron	2			7	2	1			3			1				1	1		1			1		20
human power machine, tools					2	1					1	1			1		2		2	2				12
crane	2						1			2	1			1							2	1		10
natural environment	2						1					2	1		1	1						1		9
unclassifiable		1				1	2			1		1		1										7
temporary buildings, establishments	1	1							1								1		2					6
engine			1	1																				2
power transmission mechanism												1												1
woodworking machine					1																			1
mobile silviculture machine																								

Transition of Causal agent (S) of fatal & non-fatal accident (burst) in 1999-2022

Causal agent (S)	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	total
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other equipments, facilities		18	20		10		21	14	16	20	13	10	12	13	9	8	12	10	12	12	10	12	6	11	269
other tools		3	3		2		6	6	4	6	2	6	6	6	1	7	5	8	5	4	3	4	9	8	104
other materials		9	17		17		6	13	8	10	12	7	5	4	7	3	8	1	5	3	1	5	3	3	147
truck		8	3		6		5	3	4	4	1	5	6	5	6	7	3	5	2	1	6	2	1	3	86
other hazards, harmful substances		3			2		1	4	4	3	3			2		3	2	1	2	1	1	1	2	3	38
gas welding equipment		3	3		4		3	3		3		3		1			2	2	3				1	3	34
no causal agent					2								1				1				2	1		3	10
pressure vessel			7		4		3	3	1	1	1		1	3	2	2	1	2	3	1	3	3	4	2	47
inflammable gas					1		2	2	2	1			1	1		1		3		2	1			2	19
other causal agents		10	7		5		4	2	4	4	1	1	2	1	1	2	3	2	1	2		1	1	1	55
inflammable substance		3	1		2		1	2	2	2	2		2		3	2	2		1	1		2	1	1	30
cars, bus, motorcycle			2				4	1	2	3	5		1				1	3	1	4	1			1	29
grinding machine, buffing machine					2		1				1	1	2			1	1					1		1	11
forklift		2	1						2	1					1			1	1					1	10
other powered conveying machines							1			1							2	2	1			1		1	9

boiler		1	1											1									1	4	
stone, sand, substance															1	1								1	3
other pressure vessels		3	8		7		9	7	7	5	4	1	5	11	5	6	2	6	1	7	2	5	5		106
other general power machines		6	5					4	4	2	1	2	2	3	3		1	2	1	2	2	1	3		44
chemical facilities		3	2		2		1		3	3	1	1	1	2		1	1	3	1			1	1		27
load		1	1		3		2	3	1	2		2		1	2		2	2	1	1	1				25
metal material			3		1		1	1	2	3		1	1	2			1		1	2	2	1			22
other electrical equipment		4	2		1			1	1			2	2										1		14
machine/equipment as load					4			2			1			1		1	1	2					1		13
other construction machines			1		1			1			3	1	1		1	1					1				11
explosive substance		2			2				1	3					1			1							10
harmful substance			1					1		1		1				2			1			2			9
mobile crane							1			2	1			1								2	1		8
kiln, caldron					1				1			1					1	1		1			1		7
human power											1					1			2		1	2			7













