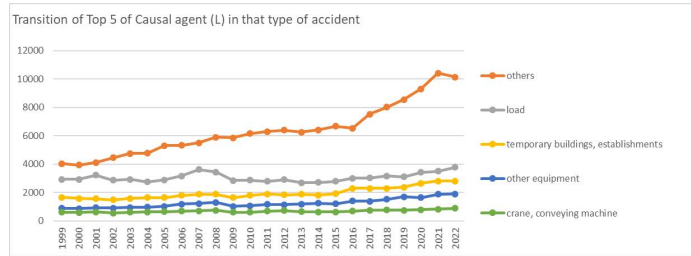
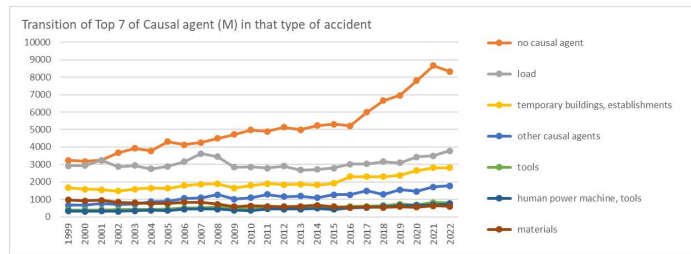


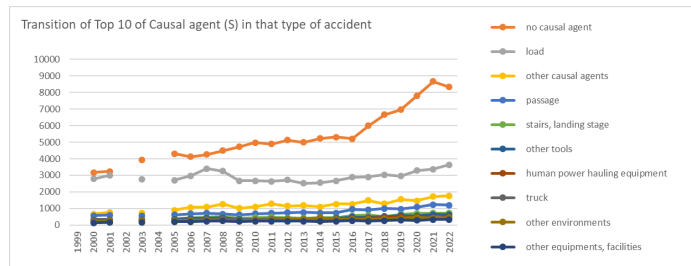
Transition of Causal agent (L, M, S) of fatal & non-fatal accident (reaction to motion/improper motion) in 1999-2022



Transition of Causal agent (L) of fatal & non-fatal accident (reaction to motion/improper motion) in 1999-2022



Transition of Causal agent (M) of fatal & non-fatal accident (reaction to motion/improper motion) in 1999-2022



Transition of Causal agent (S) of fatal & non-fatal accident (reaction to motion/improper motion) in 1999-2022

Transition of Causal agent (L) of fatal & non-fatal accident (reaction to motion/improper motion) 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
others	4,036	3,943	4,127	4,466	4,757	4,769	5,299	5,324	5,502	5,908	5,859	6,160	6,303	6,403	6,263	6,425	6,667	6,526	7,532	8,022	8,553	9,305	10,410	10,147	152,706
load	2,924	2,934	3,235	2,875	2,935	2,756	2,899	3,162	3,628	3,450	2,844	2,863	2,796	2,913	2,690	2,709	2,795	3,020	3,033	3,167	3,103	3,429	3,501	3,779	73,440

temporary buildings, establishments	1,662	1,591	1,562	1,479	1,583	1,644	1,636	1,796	1,875	1,883	1,652	1,801	1,911	1,835	1,878	1,819	1,914	2,302	2,302	2,304	2,386	2,654	2,817	2,808	47,094
other equipment	890	883	928	904	944	978	1,033	1,181	1,233	1,300	1,035	1,079	1,176	1,149	1,182	1,246	1,207	1,416	1,388	1,517	1,695	1,655	1,878	1,895	29,792
crane, conveying machine	619	597	634	552	615	633	646	694	718	754	612	609	696	734	655	630	638	700	746	775	746	786	826	898	16,513
substance, material	972	927	953	840	807	757	772	841	843	736	596	635	610	594	612	661	593	540	567	536	584	554	634	605	16,769
environment	373	374	427	337	376	389	376	400	429	395	386	430	452	447	498	552	470	438	470	481	489	570	536	570	10,665
machine	223	191	223	168	163	167	163	178	199	189	143	117	164	116	136	149	136	139	139	156	153	168	175	177	3,932
total	11,699	11,440	12,089	11,621	12,180	12,093	12,824	13,576	14,427	14,615	13,127	13,694	14,108	14,191	13,914	14,191	14,420	15,081	16,177	16,958	17,709	19,121	20,777	20,879	350,911

Transition of Causal agent (M) of fatal & non-fatal accident (reaction to motion/improper motion) 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
no causal agent	3,238	3,178	3,239	3,670	3,926	3,782	4,301	4,131	4,260	4,494	4,722	4,970	4,892	5,131	4,986	5,234	5,311	5,217	5,997	6,663	6,963	7,807	8,660	8,336	123,108
load	2,924	2,934	3,235	2,875	2,935	2,756	2,899	3,162	3,628	3,450	2,844	2,863	2,796	2,913	2,690	2,709	2,795	3,020	3,033	3,167	3,103	3,429	3,501	3,779	73,440
temporary buildings, establishments	1,662	1,591	1,562	1,479	1,583	1,644	1,636	1,796	1,875	1,883	1,652	1,801	1,911	1,835	1,878	1,819	1,914	2,302	2,302	2,304	2,386	2,654	2,817	2,808	47,094
other causal agents	661	662	765	691	736	879	908	1,069	1,091	1,267	1,023	1,094	1,292	1,152	1,190	1,095	1,267	1,273	1,487	1,288	1,552	1,465	1,714	1,772	27,393
tools	392	401	401	410	407	404	450	509	517	573	440	470	474	461	475	527	519	605	600	643	722	682	819	788	12,689
human power machine, tools	326	309	329	323	352	384	362	444	457	446	374	362	461	440	437	485	430	527	530	587	653	660	688	747	11,113
materials	970	924	949	837	804	756	768	838	840	732	593	632	607	593	609	660	590	540	564	532	582	548	628	601	16,697
natural environment	373	374	427	337	376	389	376	400	429	395	386	430	452	447	498	552	470	438	470	481	489	570	536	570	10,665
conveying machine	420	396	414	363	402	391	371	389	421	463	356	368	408	402	380	368	389	396	416	440	422	504	514	560	9,953
other equipments, facilities	138	137	162	141	153	171	192	202	229	245	209	227	229	224	240	208	233	264	238	263	292	288	329	338	5,352

vehicle	173	182	194	173	179	222	263	265	274	272	238	229	269	312	260	247	238	287	306	308	304	250	275	311	6,031	
general machine	86	83	106	80	71	87	85	102	90	100	86	63	73	55	75	76	59	76	74	85	85	86	90	90	1,963	
unclassifiable	137	103	123	105	95	108	90	124	151	147	114	96	119	120	87	96	89	36	48	71	38	33	36	39	2,205	
construction machine	50	40	49	37	43	38	33	21	46	27	24	23	43	25	32	29	27	32	27	34	30	42	31	39	822	
metal manufacturing machine	47	36	42	30	24	30	29	34	41	38	18	16	34	21	17	30	28	17	24	26	21	28	25	31	687	
crane	26	19	26	16	34	20	12	40	23	19	18	12	19	20	15	15	11	17	24	27	20	32	37	27	529	
woodworking machine	36	23	23	18	20	8	11	17	20	19	13	11	14	12	8	12	12	6	11	9	11	8	18	12	352	
electric equipment	8	12	14	9	11	13	13	12	10	16	5	10	6	10	19	13	10	13	11	14	12	14	24	11	290	
pressure vessel	10	10	9	3	4	2	7	5	11	8	3	8	2	7	3	6	8	2	4	2	6	3	5	4	132	
welding equipment	11	9	6	10	8	3	6	4	6	4	1	1	2	2	3	3	2	2	2	2	1	3	2	4	97	
hazards, harmful substances	2	3	4	3	3	1	4	3	3	4	3	3	3	1	3	1	3		3	4	2	6	6	4	72	
power transmission mechanism	1	2	2	1	3	1	4		2	1	1	1		2	2	1	2	1	2		1	1	3	3	37	
kiln, caldron	3	4	6	7	6		1	5	2	7	3	1	2	2	2	4	5	2	3	4	8	3	6	2	88	
engine	3	7	1	2	2	3	1	4		4	1	3		1	2	1	5	5	1	1	3	1	5	1	57	
chemical facilities	2	1	1	1	3	1	2		1	1				3	3			1		2	1	2	5	1	31	
mobile silviculture machine																		3	2		1	2	2	3	1	14

Transition of Causal agent (S) of fatal & non-fatal accident (reaction to motion/improper motion) 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
no causal agent		3,178	3,239		3,926		4,301	4,131	4,260	4,494	4,722	4,970	4,892	5,131	4,986	5,234	5,311	5,217	5,997	6,663	6,963	7,807	8,660	8,336	112,418
load		2,780	3,001		2,764		2,708	2,973	3,407	3,249	2,678	2,669	2,633	2,721	2,517	2,548	2,663	2,885	2,904	3,034	2,960	3,285	3,365	3,639	61,383
other causal agents		662	765		736		908	1,069	1,091	1,267	1,023	1,094	1,292	1,152	1,190	1,095	1,267	1,273	1,487	1,288	1,552	1,465	1,714	1,772	25,162
passage		564	593		565		621	687	722	673	608	676	718	756	760	736	725	943	922	1,005	963	1,079	1,236	1,193	16,745
stairs, landing stage		327	296		326		376	427	472	501	408	449	479	431	420	453	453	561	607	512	642	694	722	723	10,279
other tools		288	296		318		343	394	415	456	347	339	367	358	346	409	422	483	471	509	584	542	627	612	8,926

human power hauling equipment		152	174		210		234	285	312	303	272	278	318	310	336	369	330	406	412	460	496	476	439	480	7,052
truck		326	334		323		304	319	340	376	303	299	342	324	312	306	319	310	336	346	340	435	424	456	7,174
other environments		203	245		243		268	284	317	280	268	310	321	343	370	445	372	343	341	380	395	461	411	455	7,055
other equipments, facilities		137	162		153		192	202	229	245	209	227	229	224	240	208	233	264	238	263	292	288	329	338	4,902
other temporary buildings, establishments		179	168		196		174	210	168	172	185	213	174	164	196	194	252	263	225	215	283	271	270	319	4,491
working platform, boot board		232	231		218		208	208	214	215	192	185	225	206	184	196	211	247	257	246	230	258	249	265	4,677
building, establishment		233	218		222		214	217	245	286	231	241	276	240	283	207	240	245	248	283	228	314	294	263	5,228
metal material		358	377		320		345	372	362	336	248	267	254	253	237	255	227	211	248	241	247	222	275	254	5,909
cars, bus, motorcycle		130	151		132		206	200	221	224	187	185	217	207	194	207	192	207	224	216	222	201	225	249	4,197
other materials		227	233		205		180	221	248	172	173	196	160	157	189	216	181	177	153	140	173	159	187	187	3,934
ladder		108	101		87		102	103	99	110	90	123	104	100	123	114	92	116	124	132	130	137	191	169	2,455
machine/equipment as load		154	234		171		191	189	221	201	166	194	163	192	173	161	132	135	129	133	143	144	136	140	3,502
hand tool		143	143		129		116	145	133	130	94	78	130	120	90	110	90	111	101	115	118	119	146	137	2,498
human power cranes			4		4		3	3	4	3	2	2	2	1	2	2	2	2	4	8	32	57	94	124	355
lumber, bamboo		248	236		190		173	176	159	155	121	114	136	122	125	120	135	113	111	107	113	118	118	111	3,001
natural ground, rock		119	117		92		72	86	87	78	89	81	90	68	92	72	67	59	87	62	65	72	91	83	1,729
other general power machines		69	83		55		62	85	72	79	68	51	61	39	58	54	44	59	48	55	62	70	73	71	1,318
forklift		28	39		43		33	45	40	40	26	29	28	36	29	28	31	43	50	55	43	43	57	59	825
other vehicles		46	39		42		53	61	44	41	46	40	41	98	59	37	43	76	78	88	72	37	39	54	1,134
stone, sand, substance		91	103		89		70	69	71	69	51	55	57	61	58	69	47	39	52	44	49	49	48	49	1,290
unclassifiable		103	123		95		90	124	151	147	114	96	119	120	87	96	89	36	48	71	38	33	36	39	1,855
scaffolding		31	27		31		32	27	31	25	14	18	20	23	18	18	20	23	19	22	18	19	23	32	491
standing tree		29	47		32		28	21	22	29	24	32	30	22	25	23	22	24	20	25	21	28	26	28	558
conveyor		22	14		16		19	8	23	23	11	20	13	20	22	20	14	17	18	23	18	13	21	27	382
other powered conveying machines		17	24		16		13	14	17	22	14	18	22	17	16	14	22	22	9	15	19	9	10	17	347
excavating machine		10	15		5		10	4	11	7	8	7	12	6	11	6	6	10	10	12	14	17	9	14	204

demolition machine		4	2		5		5	5	6	1	1	4	3	6	2	2	2	1	1	2	3	6	2	2	65
other powered crane		1	5		5		1	6	2	3		3	2	5	4	3	2	5	5	2	3	1	4	2	64
high/cold temperature environment		4	8		2		2	4		2	1	1	4	7	1	3	1	1	6	5	3	2	3	2	62
kiln, caldron		2	2		6		1	5	2	5	2		1	2	2	2	3	2	1	3	6	2	5	2	56
timbering		5	5		6		4	4	2	1	4	4	2	4	2		1	1		1	1	2	2	2	53
roll machine (except printingroll machine)			3		3		2		1	5	1	1	3			1	1	1	2	3	3	3		2	35
arc welding equipment		5	3		5		3	1	1				1	1	2		2	1		1	1	2	2	2	33
explosive substance		3	2		1		3	2	1	1		1	2	1	3		2			3	1	4	1	2	33
foundation work machine			1		3		1	1	1	1	1	3	1			3	1		2	4		2	2	2	29
other hazards, harmful substances					2		1	1	2		1	2	1				1		3	1	1	2	3	2	23
other welding equipment		3	2		1		1	2	3	1	1	1				1			1	1		1		2	21
water		18	7		7		6	4	3	5	4	6	5	6	10	8	8	3	9	6	5	5	5	1	131
engine		7	1		2		1	4		4	1	3		1	2	1	5	5	1	1	3	1	5	1	49
mixer, grinder		2	3		2		2	5	2		2	1	1	1	2	6	3	2	3	2	3	1	3	1	47
vehicle for high lift work		2	2		2		1		4	2	1	1	1	2	2	4	3		2	1		5	1	1	37
abnormal environment		1	3					1		1			2	1		1		8	7	3		2		1	31
loader		3	1		2		1	1		1	1	1	2	3	1		3	1	1		1	4	1	1	29
chemical facilities		1	1		3		2		1	1				3	3			1		2	1	2	5	1	27
injection molding machine		1					2			1	2	3		1					1	2	2			1	16
boiler		2					1	1			1												1	1	7
felling machine																	1	2		1	1			1	6
band sawing machine														1									1	1	3
electric power facilities		1	1		3		1	1	2	1		4	1					2		1	1	1	3		23
gas welding equipment		1	1		2		2	1	2	3			1	1	1	2		1	1						19
hollow chisel mortisers, wood borer		2	1		1		1	1	3	1		1				2	1	1					1		16
pressure vessel		2	1				1	1	3	2		2	1	1				1	1						16

industrial dryer		1	1						1		1	1			2		2	1		1	1			12
centrifugal machine			1			1		1	2		1		1		2		1							10
other kiln, caldron		1	3						1	1				2				2						10
gondola			1			1	2			1						2		1		1				9
railway equipment			1			1	1	1	1		1	1	1					1						9
wood planer machine		1	2		1	1						1			1					1				8
lumberyard equipment, logging cableway		3	1				1						1		1					1				8
rough terrain hauler			1							1						3	1	1			1			8
forging pressure hammer		1				1	1								1			2	1					7
cargo lifting appliance		1	1		1						1			1				2						7
shearing machine			1							1		2		1							1			6
straddle carrier					2			1					1				1							5
mobile logging machine																				2	2			4
inflammable substance									1	1											2			4
harmful substance			1						1	1				1										4
industrial robot																		2			1			3
other mobile silviculture machine															1				1		1			3
chamfering machine, router, woodworking milling machine														1						1				2
inflammable gas			1						1															2
skyline yarding machine															1									1
derrick crane																								
simple skyline yarding equipment																								
radiation																								

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