

INDUSTRIAL CRANES
NUCLEAR CRANES
CONTAINER HANDLING
SHIPYARD CRANES
HEAVY-DUTY LIFT TRUCKS
SERVICE
MACHINE TOOL SERVICE

KONECRANES[®]
Lifting Businesses[™]

YARD PROCESS AUTOMATION
REFERENCES



Yard Process Automation References

Year	Customer	Type	No.	Delivery	Country	Konecranes ID	Yard Automation systems and features	Terminal Operating System (TOS)
2017	TPKS Semarang	ARTG	9	Freeport	Indonesia	G1822-1830	Automated RTG System	RBS
2017	TCV Stevedoring Company	RTG	4	TCV VII	Spain	G1884-1887	Auto-steering, Stack collision prevention	
2016	Haifa Port Company	RMG	3	Haifa II	Israel	G1738-1740	RMG skew control, Auto-TOS reporting	TSB
2016	Burlington Northern Santa Fe	RMG	3	Gardner	USA	G1699-1701	RMG skew control, Auto-TOS reporting	TSB
2016	CICE Container Terminal	RTG	2	Veracruz	Mexico	G1876-1877	Auto-steering, Stack collision prevention	
2016	GCT Deltaport	RTG	6	Delta	Canada	G1878-1883	Stack collision prevention	
2016	DPW Maputo	RTG	6	Maputo	Mozambique	G1870-1875	Auto-steering, Auto-TOS reporting, Auto-positioning, Stack collision prevention, Auto-truck guiding, Truck lift prevention	Zodiac
2016	Luka Koper	CRTG	7	Koper VIII	Slovenia	G1853-1859	Auto-steering, Auto-TOS reporting, Auto-positioning, Stack collision prevention	Tideworks
2016	Port of Lome	RTG	8	Togo II	Togo	G1843-1850	Auto-steering, Auto-TOS reporting	RBS
2016	Cotonou	RTG	5	Benin II	Benin	G1838-1842	Auto-steering, Auto-TOS reporting	OSCAR
2016	Termon	RTG	5	Montreal	Canada	G1832-1836	Auto-steering, Auto-TOS reporting, Auto-positioning, Stack collision prevention, Auto-truck guiding	Navis
2016	CSX	RTG	1	Cincinnati II	USA	G1812	Auto-steering	
2016	GCT Vancouver	RTG	2	Vancouver II	Canada	G1806-1807	Stack collision prevention	
2016	GCT Vancouver	RTG	4	Vancouver	Canada	G1794-1797	Stack collision prevention	
2016	APM Terminals	RTG	4	Apapa III	Spain	G1798-1801	Auto-steering, Auto-TOS reporting, Stack collision prevention	Navis
2016	APM Terminals	RTG	10	Algeciras	Spain	G1722-1731	Auto-steering, Stack collision prevention	Navis
2016	TCV Stevedoring Company	RTG	4	TCV VI	Spain	G1790-1793	Auto-steering, Stack collision prevention	
2016	APM Terminals	RTG	4	Apapa II	Nigeria	G1734-1737	Auto-steering, Auto-TOS reporting, Stack collision prevention	Navis
2016	Georgia Ports Authority	ERTG	10	Savannah XIV	USA	G1756-1765	Auto-steering	
2016	DCT Gdansk	CRTG	15	Gdansk	Poland	G1775-1789	Auto-steering, Auto-TOS reporting, Auto-positioning, Stack collision prevention, Auto-truck guiding, Truck lift prevention, Auto-path optimizing	Navis
2016	TPKS Semarang	ARTG	11	Semarang	Indonesia	G1637-1647	Automated RTG System	RBS
2015	PT Pelabuhan Indonesia III	ARMG	20	Lamong Bay	Indonesia	G1482-1501	Automated Stacking Crane System	RBS
2015	Port of Pointe Noire	RTG	12	Congo II	Congo	G1707-1718	Auto-steering, Auto-TOS reporting	OSCAR
2015	Port of Everglades	ERTG	2	Everglades	USA	G1720-1721	Auto-steering, Auto-TOS reporting	Navis
2015	Lome Container Terminal (LCT)	ERTG	10	Lome II	Togo	G1741-1750	Auto-steering, Auto-steering <i>Lite</i> , Auto-TOS reporting	RBS
2015	DPW Yarimca	CRTG	18	Yarimca	Turkey	G1619-G1636	Auto-steering, Auto-TOS reporting, Auto-positioning, Stack collision prevention, Auto-truck guiding, Truck lift prevention	Zodiac
2015	Georgia Ports Authority	ERTG	20	Savannah XII	USA	G1648-1667	Auto-steering	

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2015	Port of New Orleans	CRTG	2	Nola	USA	G1751-1752	Auto-steering, Auto-TOS reporting	Navis
2015	New Orleans Terminals	RTG	2	New Orleans	USA	G1673-1674	Auto-steering, Auto-TOS reporting	Tideworks
2015	Port of Togo	RTG	4	Togo	Togo	G1537-1540	Auto-steering, Auto-TOS reporting	OSCAR
2015	Bronka Fenix	RTG	10	Bronka	Russia	G1683-1692	Auto-steering, Auto-TOS reporting, Auto-positioning	SOLVO
2015	Consumer Goods Myanmar Ltd	BXH	1	Myanmar	Myanmar	G1719	Auto-steering	
2015	Cotonou	RTG	5	Benin	Benin	G1702-1706	Auto-steering, Auto-TOS reporting	OSCAR
2014	TCBuen	ERTG	6	Buenaventura	Colombia	G1596-1601	Auto-steering <i>Lite</i>	
2014	Mariupol Sea Trading Port	CRTG	2	Mariupol II	Ukraine	G1675-1676	Auto-steering, Auto-TOS reporting	
2014	Tin-can Island Container Terminal	RTG	5	Lagos II	Nigeria	G1586-1590	Auto-steering, Auto-TOS reporting	OSCAR
2014	CTSP	RTG	2	St. Petersburg	Russia	G1611-162	Auto-steering, Auto-TOS reporting, Auto-positioning	SOLVO
2014	Port of Kieal	RTG	1	Kiel	Germany	G1602	Auto-steering	
2014	New York Container Terminal	RTG	2	New York	USA	G1570-1571	Auto-steering	
2014	Port of Douala	RTG	4	Cameroon	Cameroon	G1533-1536	Auto-steering, Auto-TOS reporting	OSCAR
2014	Port of Pointe Noire	RTG	4	Congo	Congo	G1529-1532	Auto-steering, Auto-TOS reporting	OSCAR
2014	Lome Container Terminal (LCT)	ERTG	12	Lome	Togo	G1419-1430	Auto-steering, Auto-TOS reporting	RBS
2013	Mariupol Sea Trading Port	RTG	2	Mariupol	Ukraine	G1509-1510	Auto-steering	
2013	Freeport	SC	10	Freeport	Bahama		Auto-TOS reporting	NAVIS
2013	TCV V	RTG	4	Valencia	Spain	G1505-1508	Auto-steering	
2013	APMT Apapa	RTG	2	Lagos	Nigeria	G1502-1503	Auto-steering, Auto-TOS reporting, Stack collision prevention	NAVIS
2013	APMT Apapa	RTG	8	Lagos	Nigeria	G1442-G1449	Auto-steering, Auto-TOS reporting, Stack collision prevention	NAVIS
2013	MPS, Ghana	RTG	4	Ghana	Ghana	G1432-G1435	Auto-steering, Auto-TOS reporting	NAVIS
2013	MPS, Ghana	RTG	5	Ghana	Ghana	G1436-G1440	Auto-steering, Auto-TOS reporting	OSCAR
2013	CSX	RTG	2	Cincinnati, Ohio	USA	G1416-G1417	Auto-steering	
2013	Evyap Port	ERTG	8	Evyapport	Turkey	G1407-G1414	Auto-steering, Auto-TOS reporting	in-house
2012	Muuga CT	RTG	2	Muuga	Estonia	G1385-1386	Auto-steering, Auto-TOS reporting, Auto-positioning	SOLVO
2012	Luka Koper	RTG	3	Koper VII	Slovenia	G1379-1381	Auto-steering, Auto-TOS reporting, Auto-positioning	Tideworks
2012	Tin-can Island Container Terminal	RTG	4	Lagos II	Nigeria	G1375-1378	Auto-steering, Auto-TOS reporting	OSCAR
2012	PD Teesport	STS	4	Teesport	UK	non KC	Auto-TOS reporting	NAVIS
2012	MSC	RTG	3	Valencia II	Spain	G1366-1368	Auto-steering, Auto-TOS reporting	Cosmos
2012	Sifax Group	RTG	10	Lagos	Nigeria	G1356-1365	Auto-steering, Auto-TOS reporting	OSCAR
2012	Klaipėdos Smeltė	RTG	7	Klaipėda	Lithuania	G1349-1355	Auto-steering, Auto-TOS reporting, Auto-positioning	RBS
2012	NCC, Novorossiysk	CRTG	1	Novorossiysk II; CRTG	Russia	G1343	Auto-steering, Auto-TOS reporting	SOLVO
2012	Georgia Ports Authority	ERTG	4	Savannah XII	USA	G1310-1313	Auto-steering	

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2012	Georgia Ports Authority	RTG	16	Savannah XII	USA	G1294-1309	Auto-steering	
2011	PD Teesport	RTG	4	Teesport	UK	G1279-1282	Auto-steering, Auto-TOS reporting	Navis
2011	Luka Koper	RTG	2	Koper VI	Slovenia	G1341-1342	Auto-steering, Auto-TOS reporting	Tideworks
2011	First Container Terminal (NCC)	RTG	4	St Petersburg	Russia	G1002-G1005	Auto-steering, Auto-TOS reporting	SOLVO
2011	First Container Terminal (NCC)	RTG	5	St Petersburg II	Russia	G1241-1245	Auto-steering, Auto-TOS reporting	SOLVO
2011	Nemport	CRTG	5	Nemport	Turkey	G1213-1218	Auto-steering, Auto-TOS reporting	in-house
2010	Luka Koper	RTG	2	Koper V	Slovenia	G1247-1248	Auto-steering	Tideworks
2010	Haifa Port Company	RMG	12	Haifa	Israel	G1145-1156	RMG skew control, Auto-TOS reporting	TSB
2010	Tin-can Island Container Terminal	RTG	6	Lagos	Nigeria	G1167-1172	Auto-steering, Auto-TOS reporting	OSCAR
2010	UNICAF, Vridi Container Terminal	RTG	8	Abidjan II	Ivory Coast	G1137-1144	Auto-steering, Auto-TOS reporting	in-house
2009	HPC Odessa	RTG	4	Odessa III	Ukraine	G1032-1035	Auto-steering, Auto-TOS reporting	in-house
2009	Baltic Container Terminal (NCC)	CRTG	11	Ust-Luga; CRTG	Russia	G991-1001	Auto-steering, Auto-TOS reporting	SOLVO
2009	NUTEP	CRTG	4	Novorossiysk; CRTG	Russia	G987-990	Auto-steering, Auto-TOS reporting	SOLVO
2009	Steinweg Handelsveem Bv	STS	4	Rotterdam	NL	non KC	Auto-TOS reporting, Auto-positioning	ModaLity
2009	MSC	RTG	12	Valencia	Spain	G971-982	Auto-steering, Auto-TOS reporting	Cosmos
2009	HPC Odessa	RTG	3	Odessa II	Ukraine	G965-967	Auto-steering, Auto-TOS reporting	in-house
2009	Logistika Terminal (NCC)	RTG	2	Shushari	Russia	G916-917	Auto-steering, Auto-TOS reporting	SOLVO
2008	Logistika Terminal (NCC)	RTG	4	Shushari	Russia	G939-942	Auto-steering, Auto-TOS reporting	SOLVO
2008	First Container Terminal (NCC)	RTG	10	St Petersburg	Russia	G929-938	Auto-steering, Auto-TOS reporting	SOLVO
2008	SAGT	RTG	31	Colombo	Sri Lanka	non KC	Auto-TOS reporting	NAVIS
2008	TP Castellon S.A	RTG	4	Castellon	Spain	G890-893	Auto-steering, Auto-TOS reporting	in-house
2008	APM Terminals	RTG	2	New York VII	USA	G733-734	Auto-steering	
2007	HPC Odessa	RTG	4	Odessa	Ukraine	G818-821	Auto-steering, Auto-TOS reporting	in-house
2007	SETV	RTG	8	Abidjan	Ivory Coast	G805-812	Auto-steering, Auto-TOS reporting	in-house
2007	Port of Point Lisas	RTG	3	Trinidad II	Trinidad & Tobago	G800-802	Auto-steering, Auto-TOS reporting	NAVIS
2007	Luka Koper	RTG	2	Koper IV	Slovenia	G885-887	Auto-steering	
2007	Luka Koper	RTG	2	Koper III	Slovenia	G798-799	Auto-steering	
2007	Halterm	RTG	4	Halifax	Canada	G720-723	Auto-steering	
2007	Freeport	SC	40	Bahama	Bahama	non KC	Auto-TOS reporting	NAVIS
2007	Massport	RTG	8	Boston	USA	G708-715	Auto-steering	
2007	Port Ashdod	TP	5	Ashdod	Israel	non KC	Auto-TOS reporting	TSB
2007	Port Ashdod	RS	8	Ashdod	Israel	non KC	Auto-TOS reporting	TSB
2007	APM Terminals	RTG	4	Los Angeles VI	USA	G700-703	Auto-steering	

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2006	APM Terminals	RTG	4	Los Angeles V	USA	G693-696	Auto-steering	
2006	APM Terminals	RTG	2	Oakland II	USA	G691-692	Auto-steering	
2006	APM Terminals	RTG	4	New York VI	USA	G687-690	Auto-steering	
2006	APM Terminals	RTG	4	Houston IV	USA	G683-686	Auto-steering	
2006	APM Terminals	RTG	2	Los Angeles IV	USA	G681-682	Auto-steering	
2006	Dragados	RTG	6	Malaga II	Spain	G670-675	Auto-steering, Auto-TOS reporting	TSB
2006	Luka Koper	RTG	1	Koper II	Slovenia	G637	Auto-steering	
2006	APM Terminals	RTG	2	Los Angeles III	USA	G631-632	Auto-steering	
2006	PONL LACT	RTG	5	Los Angeles	USA	G626-630	Auto-steering	
2006	APM Terminals	RTG	2	Tacoma	USA	G610-611	Auto-steering	
2006	APM Terminals	RTG	4	Los Angeles II	USA	G606-609	Auto-steering	
2006	APM Terminals	RTG	2	Oakland	USA	G604-605	Auto-steering	
2006	APM Terminals	RTG	2	New York V	USA	G602-603	Auto-steering	
2006	Dragados	RTG	6	Malaga	Spain	G594-599	Auto-steering, Auto-TOS reporting	TSB
2005	IPA	RS	10	Haifa	Israel	non KC	Auto-TOS reporting	TSB
2005	IPA	TP	4	Haifa	Israel	non KC	Auto-TOS reporting	TSB
2005	APM Terminals	RTG	7	Los Angeles	USA	G556-562	Auto-steering	
2005	Port of Point Lisas	RTG	3	Trinidad	Trinidad & Tobago	G522-524	Auto-steering, Auto-TOS reporting	NAVIS
2005	APM Terminals	RTG	4	New York IV	USA	G502-505	Auto-steering	
2004	APM Terminals	RTG	2	Norfolk II	USA	G484-485	Auto-steering	
2004	MPA	RTG	3	Baltimore III	USA	G466-468	Auto-steering, Auto-TOS reporting	NAVIS
2004	Israel Ports Authority	RTG	24	Ashdod	Israel	G442-465	Auto-steering, Auto-TOS reporting	TSB
2004	Luka Koper	RTG	1	Koper	Slovenia	G440	Auto-steering	
2003	MPA	RTG	3	Baltimore II	USA	G421-423	Auto-steering, Auto-TOS reporting	NAVIS
2002	Ceres Gulf Inc.	RTG	2	New Orleans	USA	G375-376	Auto-steering, Auto-TOS reporting	in-house
2002	MPA	RTG	6	Baltimore	USA	G359-364	Auto-steering, Auto-TOS reporting	NAVIS
2001	Port Ashdot, IPA	RMG	6	Ashdod	Israel	non KC	Auto-TOS reporting	TSB
2001	Ceres Paragon	SC	39	Amsterdam	NL	non KC	Auto-TOS reporting	NAVIS
2001	Manzanillo Intern. Terminal SA.	SP	13	Colon	Panama	non KC	Auto-TOS reporting	Tideworks
2001	Manzanillo Intern. Terminal SA.	RTG	25	Colon	Panama	non KC	Auto-TOS reporting	Tideworks
2001	Manzanillo Intern. Terminal SA.	RTG	6	Panama III	Panama	G333-338	Auto-TOS reporting	Tideworks
2001	Manzanillo Intern. Terminal SA.	RTG	6	Panama II	Panama	G230-235	Auto-TOS reporting	Tideworks
2001	Manzanillo Intern. Terminal SA.	RTG	18	Colon	Panama	non KC	Auto-TOS reporting	Tideworks

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2000	Port of Haifa, IPA	RMG	12	Haifa	Israel	non KC	Auto-TOS reporting	TSB
1999	Port Of Kotka	SC	23	Kotka	Finland	non KC	Auto-TOS reporting	COSMOS
1999	MDHC	SC	32	Liverpool	UK	non KC	Auto-TOS reporting	NAVIS
Total			888					

Yard Automation feature explanations

Auto-steering	Keeps the RTG on the driving lane on pre-programmed paths, creating for the RTG "invisible rails" with gantry absolute position detection. Accurate enough driving for ARTG.
Auto-steering Lite	Keeps the RTG on the driving lane on pre-programmed paths, creating for the RTG "invisible rails".
RMG skew control	Keeps the RMG perpendicular to the rails with gantry absolute position detection. Eliminates gantry skew and need for corrective steering.
Auto-TOS reporting	Reports all the crane made container moves to TOS to enable up-to-date inventory. Eliminates lost containers.
Auto-positioning	Automatically slows down and stops the crane above the next target container slot based on the next work order from TOS.
Auto-path optimizing	Optimizes the load travelling path in trolley direction thus saves time and energy.
Auto-truck guiding	Automatically guides the truck on how to position accurately under the RTG in line with the bay.
Stack collision prevention	Assists the operator in preventing container collisions while handling containers in the bay direction, detecting mixed container bays (20' and
Stack collision prevention Lite	Assists the operator in preventing container collisions while handling containers in the bay direction
Adjacent bay collision prevention	Assists the driver in preventing load collisions with containers overlapping from adjacent bay when RTG trolley moves the load in bay direction
Truck lift prevention	Assists to prevent the lifting of container with a truck if i.e. container has been left attached to truck with corner locks on by stopping the hoist motion when a truck lift is detected.