



# Leveraging on Technology for Safe Lorry Crane Operations

January 2020

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# Inspiration to Stability Control System (SCS)



*Uneven road conditions such as slope, narrow road, drainage & etc.*



*Space Constraints  
- Unable to fully extend outriggers*

**Almost 64% of Lorry Crane DO is related to outrigger not fully extended!**

Source: MOM

# Stability Control System



# Engineering Control – SCS Implementation

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## SCS Safety Features:

- 1) **Load Moment Limiter** – Blocks the lifting and movements of the crane when allowed load moment limit is exceeded
- 2) **Stabilizer Control System** – Adjust the load moment limiter according to the spread of the outrigger.

**Let us watch a Video!**





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Singapore Environment, Health, and Safety  
January 2020

# SCS Implementation Timeline

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**Jun 18: Project  
Commencement**

**Feb 19: SCS Installation  
– RAM Construction**

**Oct 19: SCS Installation  
– Eng Hup Engineering**

**Introduction of  
SCS  
Implementation to  
sub-contractor**

**Dec 18: Identification  
of SCS technology**

**May 19:  
Contractor Feedback**

**Jan 20:  
Contractor Feedback**

# Equipment Summary

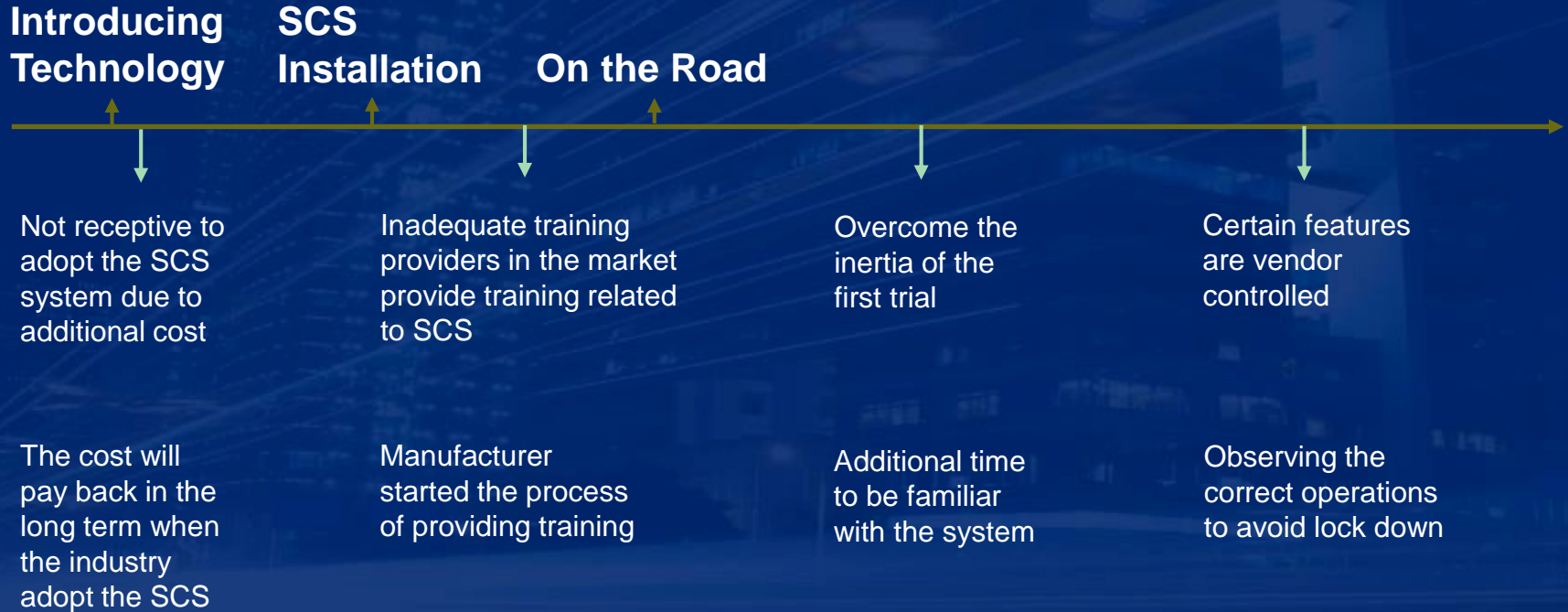
SN	Sub-contractor	Item description	LM/LG /LE No	Date of Inspection	Expiry Date	SCS Status
1	Ram construction	633 Lorry loader – Combination of Telescopic Boom & Articulating Arm Type (YP 9854M)	LM822905P	19 Dec 19	18 Dec 20	Yes
		Personnel Basket	LGWFPB448	19 Dec 19	18 Jun 20	
2	Eng Hup	633 Lorry Loader – Combination of Telescopic Boom & Articulating Arm Type (YL2125G)	LM863528X	18 Oct 19	16 Oct 20	Yes
		Personnel Basket	LGWFPB521	18 Oct 19	17 Apr 20	



# Benefits of SCS

	Before Installation	After Installation	Benefits
1) Installation Rate (No. of street lamps per day)	15% increase in Installation		Reduce cost on Man-day and avoid cost on crane related incident
2) Risks related to tipping of lorry crane	Yes	Minimized	Properties and Lives
3) Operation	Difficult to establish stability point	Stability point can be determined	Ease of operation

# Challenges



# Implementation Summary

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- 1) The SCS system creates a safe and efficient work environment for the workers
- 2) Eliminate issues caused by human error
- 3) Safeguard the public and property from falling overloads and toppling crane due to over extension
- 4) SCS will become the future standard of practice for the industry