

e-STORAGE

A subsidiary of Canadian Solar

SolBank3.0 Transportation Instruction Document

V1.4

CSI Energy Storage Technologies Co., Ltd.

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1 Preface

1.1 Document Purpose and Scope

This document focuses on the processes and procedures required to transport the SolBank3.0 series (referring to all application models mentioned in Section 1.2, unless specifically stated otherwise, this will not be reiterated in the following text.) ESS (power Storage System). The scope of this manual is limited to the tasks applicable to the shipping of this product. Topics covered include lifting, ground transportation, and sea transportation. This manual should be provided to all personnel involved in the design and shipping of SolBank3.0 series DC energy storage systems.

This manual is to be considered supplemental to project specific design and safety documentation. Please read and understand all aspects of this document prior to beginning shipping SolBank3.0 series.

Should any questions arise, please contact e-STORAGE support:

- By telephone at +1-519-837-1881

1.2 Applicable Models

This manual covers the following models only:

- CSI-SolBank-S-5016-2h-NA
- CSI-SolBank-S-5016-4h-NA
- CSI-SolBank-S-5016-2h-EU
- CSI-SolBank-S-5016-4h-EU
- CSI-SolBank-S-5016-2h-AUS
- CSI-SolBank-S-5016-4h-AUS
- CSI-SolBank-S-PL-5016-2h-NA
- CSI-SolBank-S-PL-5016-4h-NA
- CSI-SolBank-S-PL-5016-2h-EU
- CSI-SolBank-S-PL-5016-4h-EU
- CSI-SolBank-S-PL-5016-2h-AUS
- CSI-SolBank-S-PL-5016-4h-AUS

1.3 Reference Documents

The SolBank3.0 series Transportation Instruction Document exists as part of library of product specific documents. Please consult the following documents to ensure a comprehensive understanding of SolBank3.0 series attributes.

- *SolBank3.0 Installation Manual*
- *SolBank3.0 User Manual*
- *SolBank3.0 Safety Manual*
- *SolBank3.0 Maintenance Manual*
- *SolBank3.0 Commissioning Manual*
- *SolBank3.0 Decommissioning Manual*
- *SolBank3.0 Transportation Instruction Document*

1.4 Version Control

This is the initial release of the DC SolBank3.0 series Transportation Manual. As part of e-STORAGE's continuous improvement process, e-STORAGE reserves the right to make technology and document changes. Please contact e-STORAGE support to verify this manual reflects the most recent release or to report omissions or inaccuracies.

Version	Description	Date of Issuance
SolBank3.0 Transportation Instruction Document_v1.0	Initial publication date	2024/5/23
SolBank3.0 Transportation Instruction Document_v1.1	Updated Applicable Models in item1.2	2024/8/26
SolBank3.0 Transportation Instruction Document_v1.2	1. Updated transportation requirements with more attention to the misalignment of the center of gravity (CoG) and the trailer's maximum speed when turning. 2. Updated figure 6 and 7.	2024/1/24
SolBank3.0 Transportation Instruction Document_v1.3	1. Added SolBank3.0 series description 2. Updated figure 1-1 and 1-2 change the appearance of enclosure to the standard version (without venting plate) at item 3.1. 3. Updated Contact Information at item 4. 4. Delete the "1300Vmodel only" section at item 1.1 5. Updated figure 5 to remove the frame reserved for the ventilation fan in the figures at item 3.3. 6. Three signs have been added in Section 1.5.	2025/4/24
SolBank3.0 Transportation Instruction Document_v1.4	1. Updated table3, personnel adjustment.	2026/6/9

1.5 Document Safety Notices

Throughout this manual the below indicated Danger, Warning, and Caution labels are used to convey hazards associated with specific tasks and procedures. These safety notices do not represent all hazards present when performing a given task. Installers and operators of the SolBank3.0 series should adhere to industry safety best practices; site specific Environment, Health and Safety plans; and local safety requirements and regulations. *Only properly trained and qualified personnel should be permitted to complete the installation procedures identified in this manual.*



“DANGER” indicates a hazardous situation which, if not avoided, will result in death or serious injury. The signal word "DANGER" is limited to the most extreme situations. DANGER indicators are not used for property damage hazards unless personal injury risk appropriate to these levels is also involved.



“WARNING” indicates a hazardous situation which, if not avoided, could result in death or serious injury. WARNING indicators are not used for property damage hazards unless personal injury risk appropriate to this level is also involved.



“CAUTION” indicates a hazardous situation which, if not avoided, could result in minor or moderate injury. CAUTION indicators without a safety alert symbol may be used to alert against unsafe practices that can result in property damage only.



Consult instructions for use.



Noise source



cTUVus certification

1.6 Risk of Electric Shock



The primary risk associated with the installation of the SolBank3.0 series is electrical shock. *Installation and operational personnel will be exposed to voltages up to 1300 VDC from the SolBank3.0 series's battery packs.* Battery packs cannot be de-energized. Low and medium voltage AC is also present – exposure levels will depend on site specific

conditions. Risk of arc flash and electrocution is omnipresent at an ESS site. e-STORAGE encourages full compliance with the practices and procedures indicated in NFPA 70E including use of Personal Protective Equipment (PPE) sufficient to mitigate any hazards identified in a site-specific arc flash study.

Please refer to the remainder of this manual, the documents identified in Section 1.3, and a project/site specific EH&S plan for additional safety hazards.

1.7 Product Certification and Compliance

The SolBank3.0 series is compliant with the standards, regulations, and requirements identified in Table 1.

Standards	
Transportation	UN38.3 –Tests and Criteria for the Transport of Dangerous Goods UN3536 – International Shipping Dangerous Goods Rules

Table 1: SolBank3.0 series Transportation Standards Compliance

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2 Acronyms and Abbreviations

AC – Alternating Current

AHJ – Authority Having Jurisdiction

BMS – Battery Management System

BOL – Beginning of Life

DC – Direct Current

SolBank3.0 series Controller – Local Energy Management System (Battery system)

EOR – Engineer of Record

ESS – Energy Storage System

COG – Center of Gravity

HVAC – Heating Ventilation Air Conditioning

IFC - Issued for Construction

LFP – Lithium Iron Phosphate

LOTO – Lock-Out-Tag-Out

NFPA – National Fire Protection Association

PCS – Power Conversion System

PPE – Personnel Protective Equipment

SPD – Surge Protection Device

UPS – Uninterruptible Power Supply

EPC – Engineering, Procurement, and Construction contractor

CapEx - Capital Expenditures

3 Transportation Requirements

Thank you for purchasing the containerized SolBank3.0 series system supplied by e-STORAGE. The SolBank3.0 series is an advanced modular battery energy storage system incorporating industry leading capabilities enabled by cutting-edge technologies and innovative design. High energy density, liquid cooled battery and power electronics, extended service life, and advanced safety features are just a few of the attributes that set the SolBank3.0 series apart from other ESS products.

The SolBank3.0 series is fully factory integrated and tested at e-STORAGE's facility, arriving on site with battery racks populated and sub systems installed. This high level of pre-integration results in rapid installation, reduced EPC CapEx, and improved system performance and reliability.

The following documents describe the requirements related to the lifting, ground transportation, and shipping of SolBank3.0 series systems.

3.1 Lifting requirements

Lifting instructions.

1. Container size specification: L6058mm*D2438mm*H2896mm;
2. Container weight: 43±0.1 tons
3. Setting warning signs and warning marks in the lifting range.
4. Lifting equipment shall have a maintenance inspection certificate.
5. The lifting operator shall have received professional training and have an induction certificate.
6. Select the suitable hoisting machine and its auxiliary spreader to meet the lifting weight; when choosing the auxiliary spreader for lifting, the length L of the lifting wire rope and the lifting angle θ shall be determined according to the actual situation.
7. When lifting, make sure there is no obstacle around, and choose the suitable lifting plan according to the actual situation on site, lift gently and smoothly, do not scratch the container surface paint, and ensure safety during the whole process.
8. Check whether the SolBank3.0 series doors are closed and locked before lifting.

Lifting scheme can refer to Figure 1

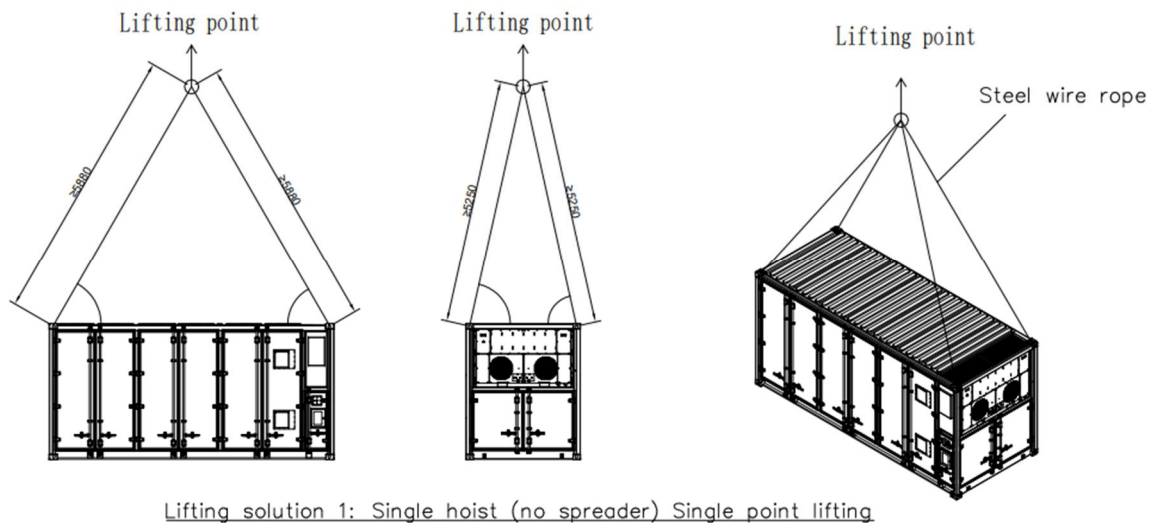


Figure 1-1: SolBank3.0 series single point lifting without spreader

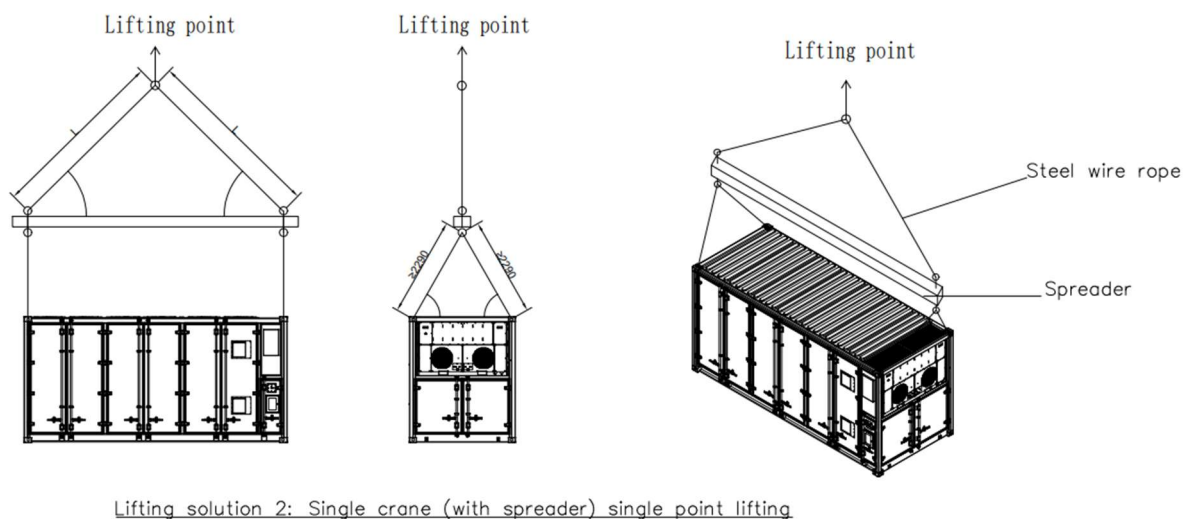


Figure 1-2: SolBank3.0 series single point with spreader lifting

3.2 Land transportation requirements

1. SolBank3.0 series product dimensions are L6058mm*D2438mm*H2896mm, weight 43 ± 0.1 tons, truck specific weight selection can be selected according to local land transport regulations.
2. The towing of the truck can choose flatbed or container-specific towing.
3. Check whether the SolBank3.0 series doors are closed and locked before shipping.
4. The fixed form of the energy storage box body on the means of transport can be referred to Figure 2.
5. Because the Center of Gravity (CoG) of SolBank3.0 series is not at the center of the product. It is closed to the back side. Please see the figure 4 for the schematic presentation of CoG misalignment. Due to the misalignment, when turning, the trailer' speed should refer to the Table 2 Turning Speed Limit Reference.

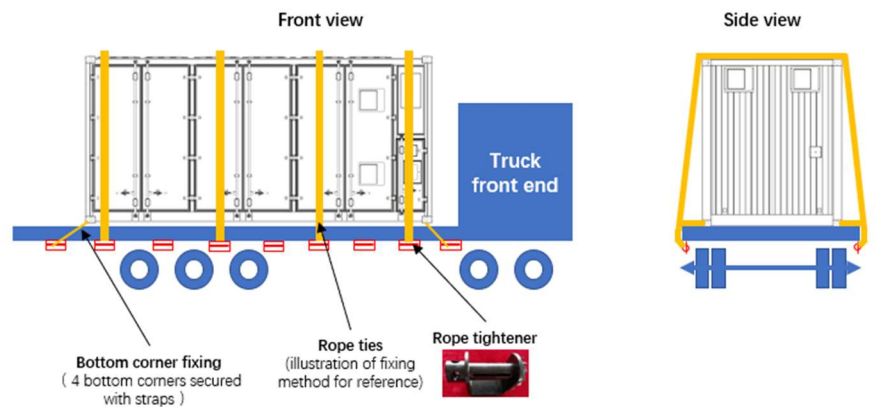


Figure 2-1: Fixing of SolBank3.0 series on a flatbed trailer truck

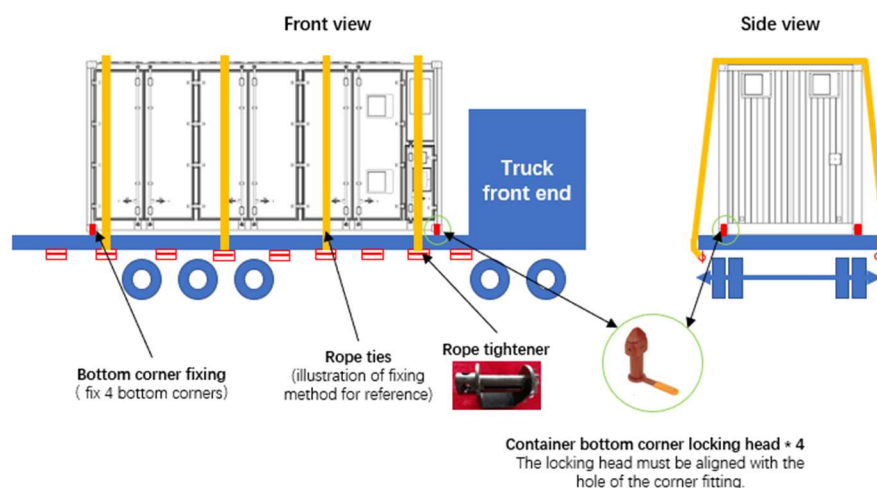


Figure 2-2: Fixing of SolBank3.0 series on a special trailer truck for containers

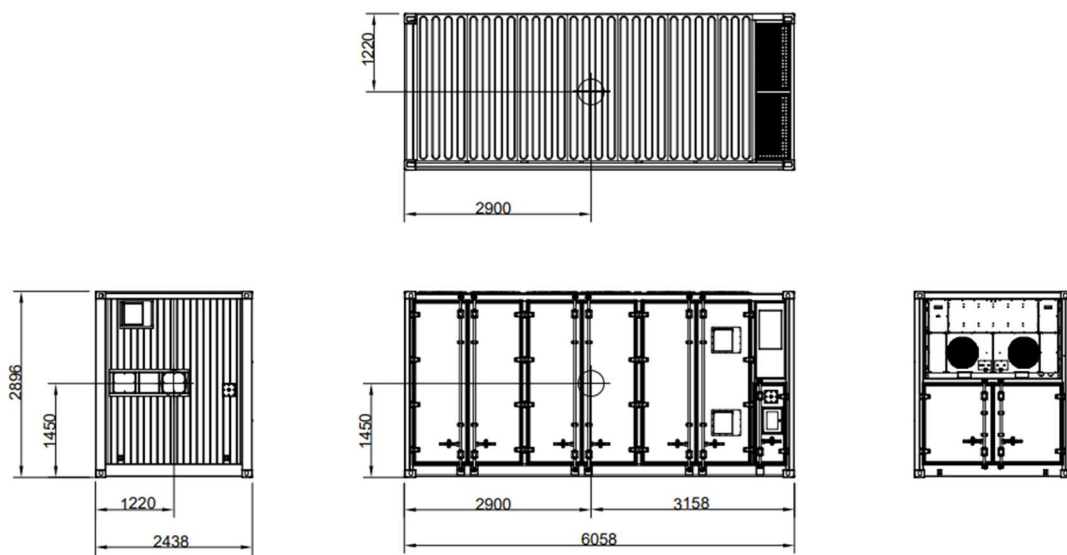


Figure 3: The Center of gravity of SolBank3.0 series

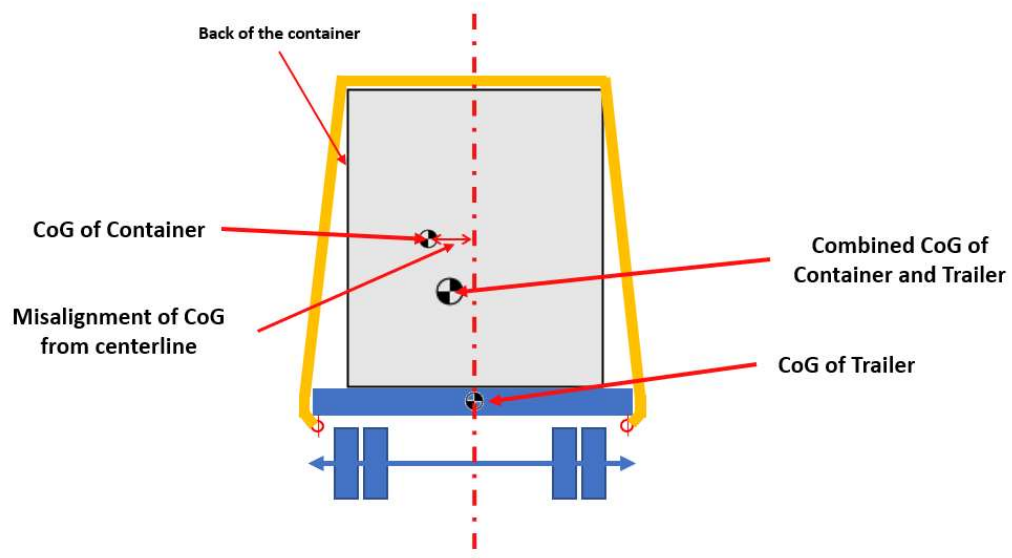


Figure 4: Combined CoG of Container and Trailer

Table 2 Turning Speed Limit Reference

Turning radius(m)	Maximum Turning Speed	
	Km/h	mph
12.5	22.5	14
15	25.7	16
20	28.9	18
25	32.1	20
85	59.5	37
200	91.7	57

3.3 Appearance check requirements

The appearance of SolBank3.0 series must be checked and photographed during transportation.

1. When changing the transportation, it is necessary to check whether the structure of the part shown in Figure 5 is intact. Check whether the structure is deformed or damaged and the paint is peeling or rusted. Also, stickers shown in Figure 6 should be checked.
2. After checking, it is recommended to take photos and records to ensure that responsibilities are clearly delineated.
3. When SolBank3.0 series arrives at the site, it is also necessary to check the inside of SolBank3.0 series to see if there are any internal leaks, parts that have fallen off, etc.
4. If the requirements stated above are not met, please contact the related staff member listed in *Table 3 Contact Window* of the annex according to region.

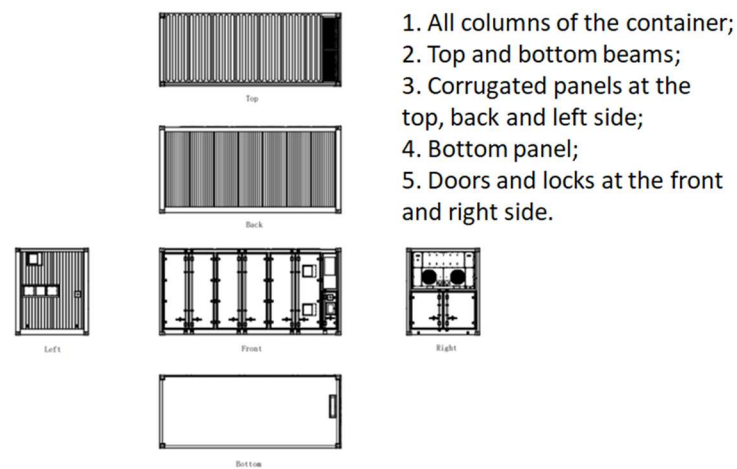


Figure 5: Structure check

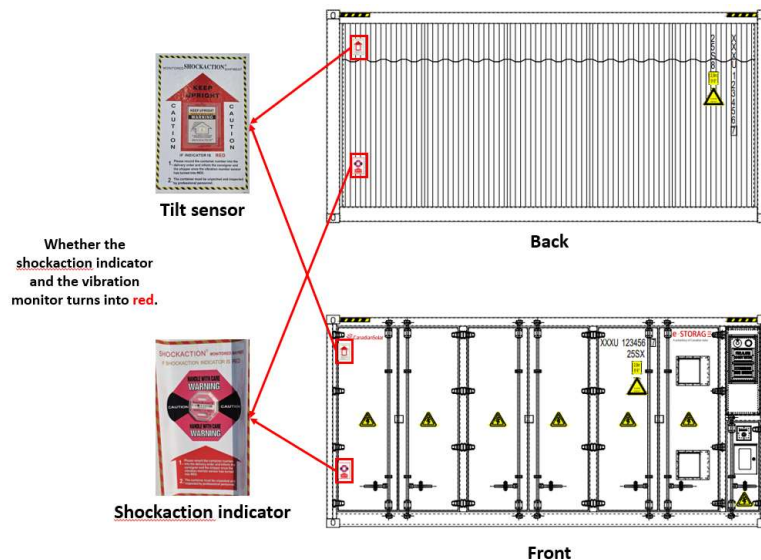


Figure 6 Sticker check

3.4 Sea freight requirements

1. SolBank3.0 series needs to pay attention that the counterweight should not exceed **192** tons when shipping by sea.
2. Please refer to Figure 7 for sea freight parameters.

TYPE	SGM-20HC-ATS-02	MANUFACTURER'S NO. OF THE CONTAINER	24SB 302731
OWNER'S NO.	HPCU 273459	NO TIMBER INSTALLED	
OWNED BY:	CSI ENERGY STORAGE CO.,LTD		
	MANUFACTURED BY: SHANGHAI BAOSHAN PACIFIC CONTAINER CO., LTD. www.singamas-sbpc.com		
CSC SAFETY APPROVAL			
GB-LR28275-06/2024			
DATE MANUFACTURED	12 / 2024		
IDENTIFICATION NO.	24SB 302731		
MAXIMUM OPERATING GROSS MASS	43,000 kg	94,800 lbs	
ALLOWABLE STACKING LOAD FOR 1.8g	192,000 kg	423,280 lbs	
TRANSVERSE RACKING TEST FORCE	150,000 newtons		
SIDE WALL STRENGTH	NIL		
END WALL STRENGTH	NIL		
			FIRST MAINTENANCE EXAMINATION DATE 12 / 2029
			(PLACE RE EXAMINATION DECAL HERE)

Figure 7: SolBank3.0 series shipping container certificate

4 Annex: Contact Information

For assistance, please contact e-STORAGE Energy Storage
System R&D

No.348, Lushan Road, Suzhou 21529,

P.R. China Tel: (0512) 6690-8088

Table 3 Contact Window

Region	Contact Window	E-mail Address	Mobile Phone Number
China	Sheng Chen	sheng.chen@csisolar.com	+86 137 7192 3114
	Andy Wang	andy2.wang@csestorage.com	+86 186 2628 6125
	Fei Yang	fei.yang@csisolar.com	+86 158 5016 6843
	Daisy Duan	daisy.duan@csisolar.com	+86 135 0613 7423
US	Peter Hilkene	peter.hilkene@csestorage.com	+1 209 741 9231
	Ahmed Hafez	Ahmed.hafez@csestorage.com	+1 437 455 3694
	Lani Balzer	lani.balzer@csestorage.com	+1-925-444-5350
UK	Susmita Das	susmita.das@csestorage.com	+44 7535913222
	Kalvin Atkinson	kalvin.atkinson@csestorage.com	+44 7535913222
	Michel Khamasmia	michel.khamasmia@csestorage.com	+44 7554 232465
	Nashit Khalifa	nashit.khalifa@csestorage.com	+44 7784694882