

THINK DIFFERENT



Sure to be Safe



about SIBRE

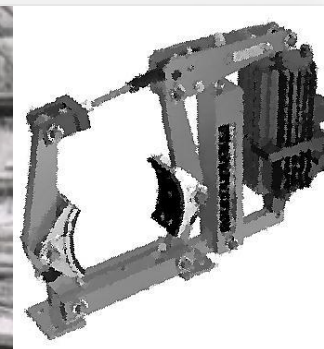


Sure to be Safe

About SIBRE



Slegeland



BREmsen

The SIBRE logo, featuring the word "SIBRE" in a bold, sans-serif font, enclosed within a blue circle. A blue rectangular bar is positioned to the right of the circle, partially overlapping it.

SIBRE

- ❑ Established in **1958**

- ❑ **Head Office:** Haiger, Germany

- ❑ **Manufactures:** Haiger & Escherburg - Germany

- ❑ **Branches:** USA, Spain, Italy, India, China,...



Sure to be Safe

Company

► Company

The background of the slide features a stylized world map in a light blue color. Overlaid on the map are numerous 3D illustrations of shipping containers stacked in various configurations. Some containers are shown on a ship's deck, while others are on land near a port or warehouse. The overall theme is global logistics and shipping.

**Agents and Partners in
more than 47 countries**



Sure to be Safe

About SIBRE

► Sectors



Port equipment



Mining industry



Steel mills



Wind turbines



Sure to be Safe

Company

► Operator References



DP WORLD



**APM
TERMINALS**



**International
Container Terminal
Services, Inc.**



Terminal Investment Limited



SSAMarine™
A Carrix Enterprise



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Company

► OEM References



KONECRANES®
Lifting Businesses™



KOCKS





Sure to be Safe

About SIBRE

► Range of Products

BRAKES



COMPONENTS



TECHNOLOGIES





Sure to be Safe



PREDECTIVE TECHNOLOGIES



Sure to be Safe

SLP

Snag Load Protection



Sure to be Safe

SLP

▶ **Video Promo**

HOSTING MODE

SLP Sensors Monitoring

UPCOMING SNAG

Detect Upcoming Snag
By inclinometer and
accelerometer sensors
Plus Load Cells
for redundant detection

STATUS CHECK

Fast re-start operation
Once sensor detects container
is released from snag position,
crane is ready for operation

SAFETY SLP - PLC
&
SAFETY CRANE PLC

SNAG STOP

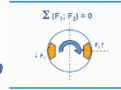
Ultra fast closed <100ms
SLP - TEXU & SLP-SHI brakes
are closed before snag load
impacts the system

RELEASE PROCESS

Tension release
Closed SHI & TEXU
Release TEXU with closed SHI
Closing TEXU & release SHI
Repeat sequence

UNIQUE TWIN CALIPER BRAKE

Service TEXU Brake take care of drive system due to NO radial load on shaft



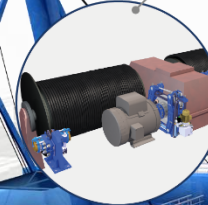
UNIQUE NO LEAKAGE BRAKE

Emergency SHI Brake NO leakage design



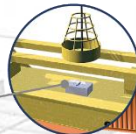
THE FASTEST REACTION SYSTEM

Fast detection & Fast Closing
Total Reaction time 150ms aprox



REDUNDANT DETECTION SYSTEM

Additional security due to second path detection using Load Cells



UNIQUE ANTICIPATION SYSTEM

More safe & lower stress in drive chain due to anticipation using sensors located close to upcoming snag



ADDITIONAL ADVANTAGES

- ☐ Suitable for retrofit
- ☐ No motor movement required
- ☐ Keeping motor connected
- ☐ Easy & Fast re-start release process
- ☐ Well known SIBRE brakes
- ☐ Green System
- ☐ SIL2



Sure to be Safe

SLP

► **Certifications**

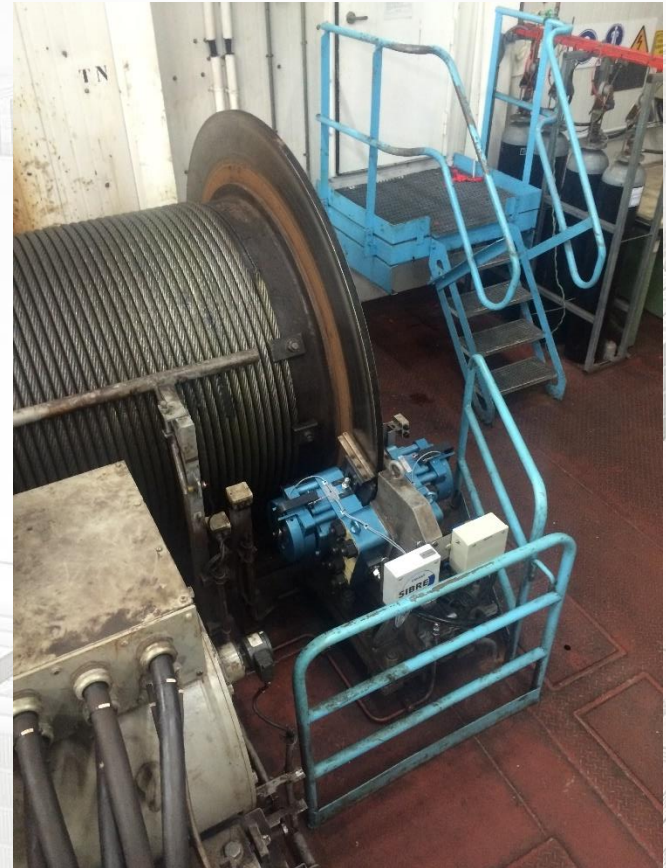
SIL2
Functional Safety
PLd

The background of the slide features a light gray, semi-transparent illustration of a port. In the foreground, a large cargo ship is docked at a pier, its deck filled with numerous stacked shipping containers. Behind the ship, the port area is filled with more stacks of containers, some being moved by cranes. The sky is a pale, hazy blue.

TEXU-SLP ■ Main hoist



SHI-SLP ■ Main hoist



SLP-PLC ■ Electrical Room





Sure to be Safe

SLP

► Gallery

TEXU-SLP



Test



test container APM

snag ropes and chains

snag loads



Sure to be Safe

SMART

SIBRE Monitoring Analyse Remote Technology



Sure to be Safe

SMART

▶ [Video Promo](#)



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SMART

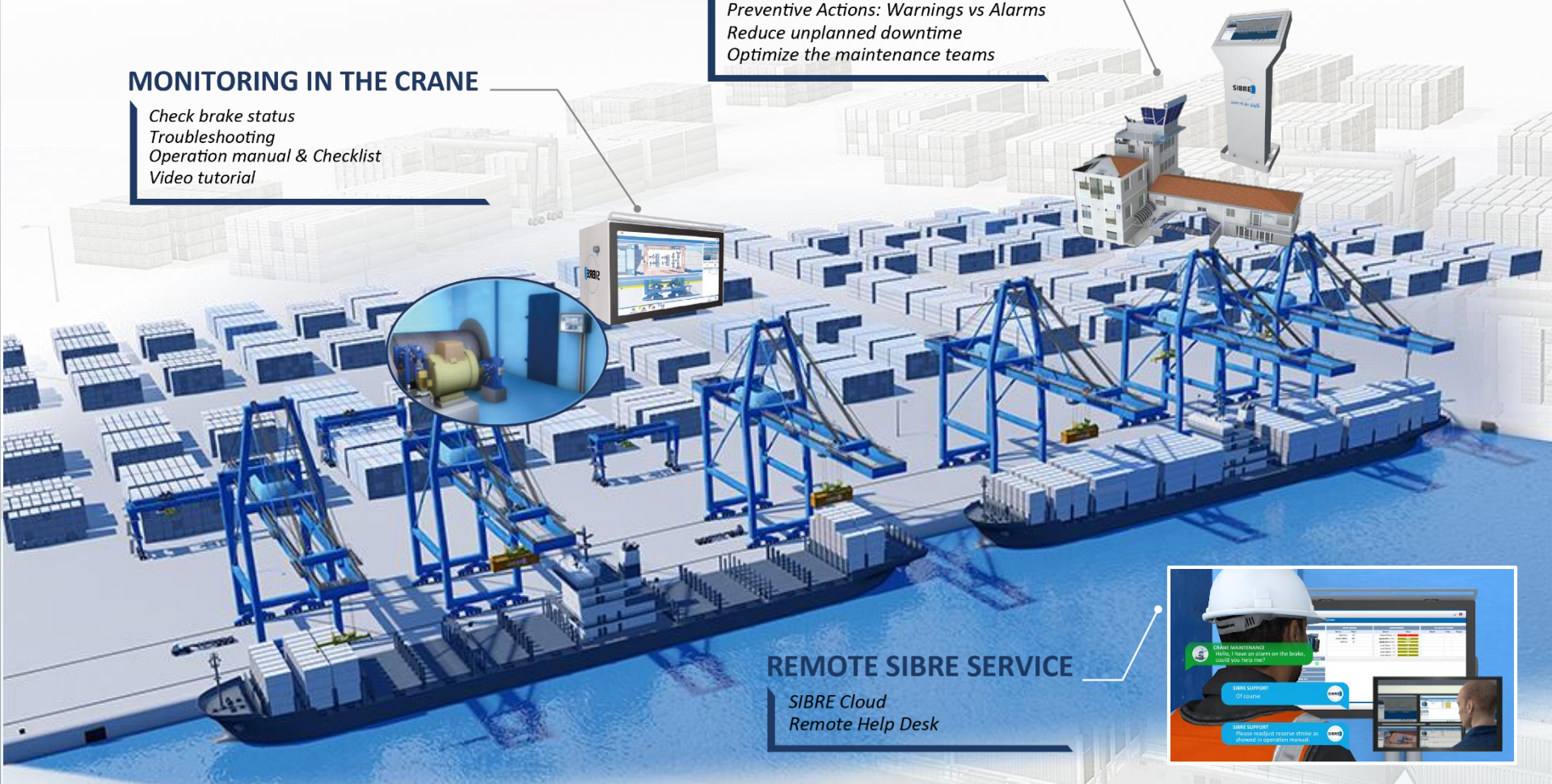
► Solution

REMOTE MONITORING

*From maintenance office, etc.
Preventive Actions: Warnings vs Alarms
Reduce unplanned downtime
Optimize the maintenance teams*

MONITORING IN THE CRANE

*Check brake status
Troubleshooting
Operation manual & Checklist
Video tutorial*



REMOTE SIBRE SERVICE

*SIBRE Cloud
Remote Help Desk*

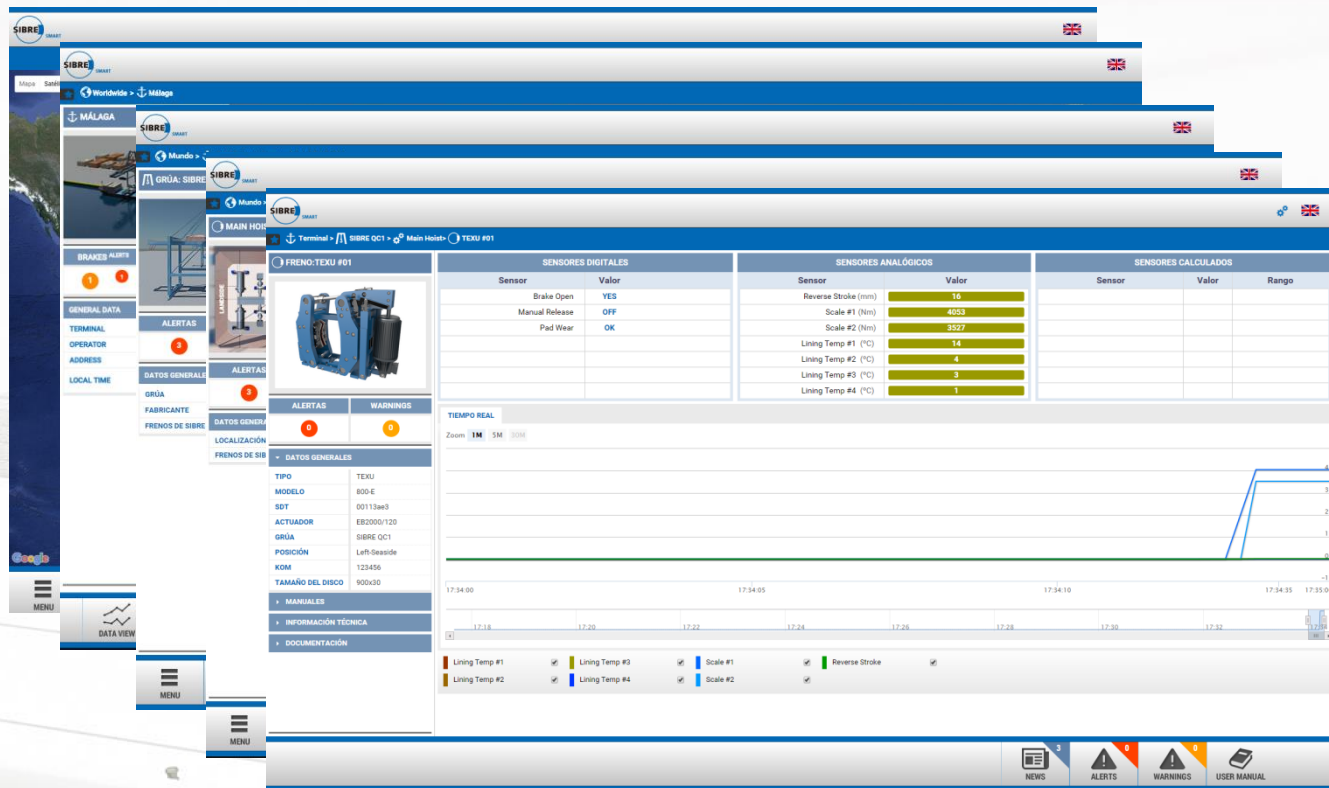




Sure to be Safe

SIBRE SMART

► SMART platform



Worldwide

Port

Crane

System

Brake

**Drill-down web platform:
Worldwide, port, crane, system and brake overview**



Sure to be Safe

SMART

► Assistance on-site

*The most powerfull
& friendly platform*



Terminal/Simulator Main Hoist USB-C53

BRAKE:USB-C53



DIGITAL SENSORS

Sensor	Value
Brake Open	CLOSE
Manual Release	OFF
Pad Wear	OK

ANALOG SENSORS

Sensor	Value
Reserve Stroke (mm)	12
Adjusted MBr #1 (Nm)	5500
Lining Temp #1 (°C)	21
Lining Temp #2 (°C)	21

CALCULATED SENSORS

Sensor	Value
Total Operation	150.458
Operation per hour (c/h)	280
Operation rating (%)	45
Duty Rating	OK
Thurster status	-

ALERTS

0

WARNINGS

1

GENERAL DATA

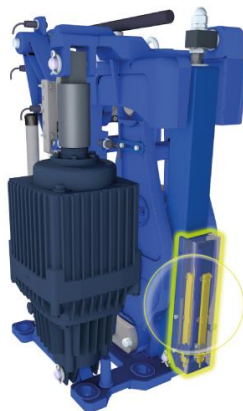
TYPE	USB
MODEL	C53
SDT	001267D3
THURSTER	Ed301/6
CRANE	QC01
POSITION	Right-Landside
KOM	142718
DISC SIZE	710

MANUALS

TECHNICAL DATA

DOCUMENTATION

STATUS HISTORY MAINTENANCE



SENSOR

Name: Adjusted MBr #1
Type: Adjusted MBr USB C53 ED301/6 D710

ADJUST PARAMETERS

Alert Min	Warning Min	Adjustment	Warning Max	Alert Max
5400	5600	6000	6400	6600

5500

NOTES



See Tutorial



ALERTS



WARNINGS



USER MANUAL

Wed Mar 08 2017
16:07:24

CURRENT SMART PROJECTS





Non-substantial modification of machines

SIBRE SMART keeps CE certification of the machine where it is installed, and increases the safety and reability of the machine.

Certified by i9s - Industrial Safety Engineering

SMART BRAKES



SMART BRAKES





Sure to be Safe

SMART

► Gallery – DPW Dubai

SMART BRAKES



SIBRE Brake Technology

MONITORING ON-SITE



MONITORING ON-SITE



MONITORING ON-SITE



MONITORING ON-SITE



MONITORING from maintenance Office





Sure to be Safe

SLP & SMART systems

Thank you for your attention!

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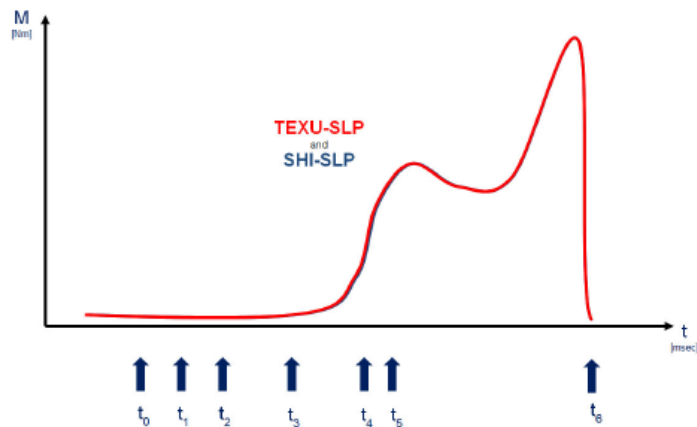


Fig. 2: SLP event diagram

Events

t_0 :	upcoming snag / container hits the obstacle
t_1 :	arrival signal SLP-PLC / detection of a possible snag
t_2 :	signal "close" to all brakes (HPU / valves) leaving SLP-PLC
t_3 :	start closing all brakes
t_4 :	contact brake disc / lining (start torque-trace)
t_5 :	TEXU-SLP or SHI-SLP closed (100% clamping force)
t_6 :	system standstill (TEXU-SLP and SHI-SLP closed)

Times

$t_0 - t_1$:	processing time sensors / signal transport to SLP-PLC	25msec
$t_1 - t_2$:	processing time SLP-PLC / detection of upcoming snag	20-25msec
$t_2 - t_3$:	electrical and mechanical downtime contactors / valves / HPU	40msec
$t_{3\text{texu}} - t_{4\text{texu}}$:	mechanical downtime SLP-TEXU (contact brake disc / lining)	40msec
$t_{4\text{texu}} - t_{5\text{texu}}$:	mechanical downtime SLP-TEXU (full clamping force applied)	20-30msec
$t_{3\text{shi}} - t_{4\text{shi}}$:	mechanical downtime super-fast SHI (contact brake disc / lining)	60msec
$t_{4\text{shi}} - t_{5\text{shi}}$:	mechanical downtime super-fast SHI (full clamping force applied)	15-25msec
$t_0 - t_5$:	total downtime SLP-TEXU	145-160msec
$t_5 - t_6$:	braking time TEXU-SLP / SHI-SLP (to complete stop)	Depending on braking condition

Test	Type	Snag load (t)	Load under Spreader (t)	Spreader mode	Hoist movement* (m)	Hoist speed** (m/min)	Time*** (ms)
1	2 Corner South	30	Empty spreader	Twin	0.30	82	308
2	2 Corner South	30	Empty spreader	Twin	0.53	120	358
3	1 Corner South Landside	25	Empty spreader	Twin	0.5	134	355
4	1 Corner South Landside	5	25	Single	0.52	149	348

(*) hoist movement after snag

(**) maximum speed reached

(***) time from snag until hoist is stopped



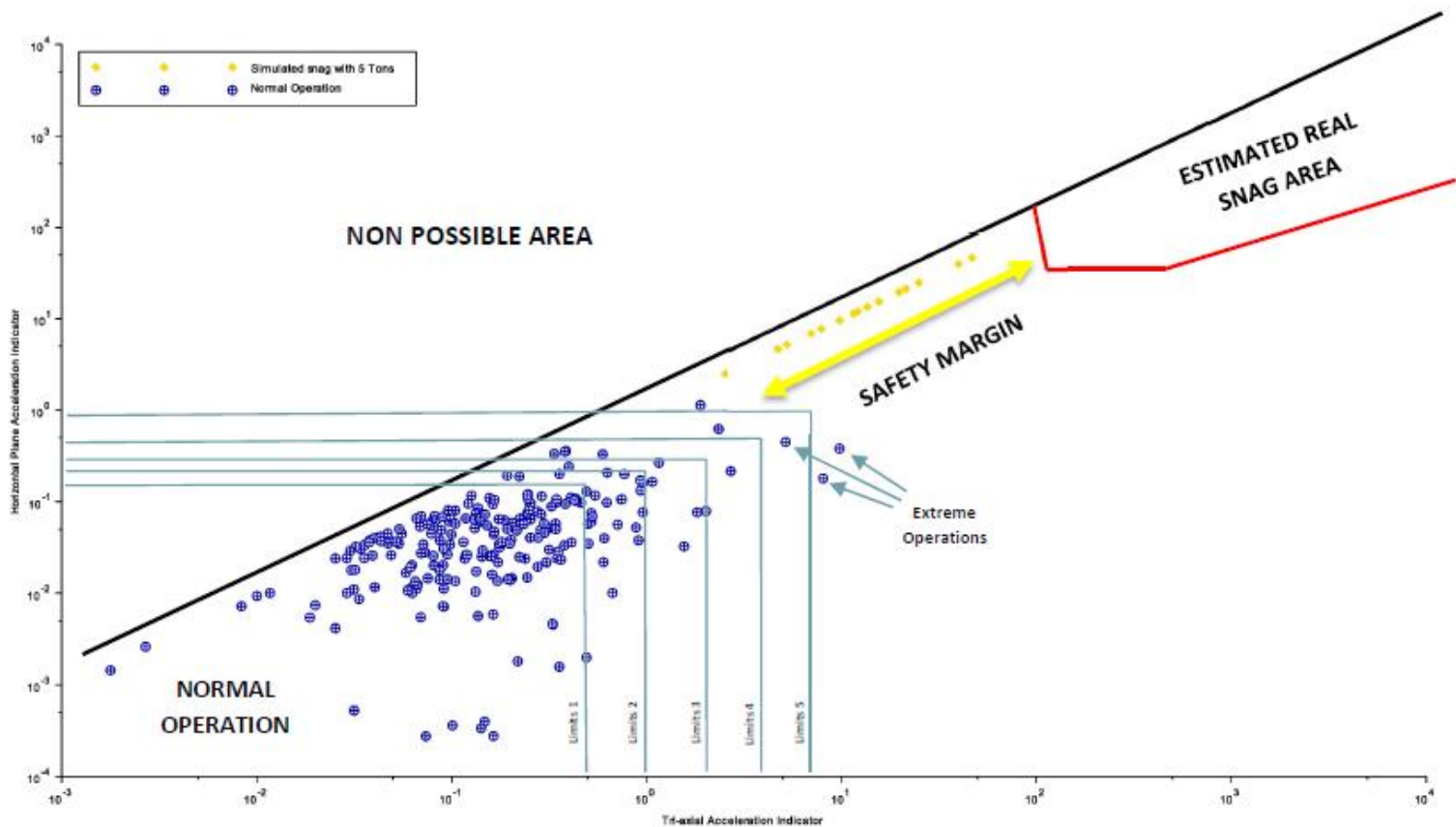
Fig. 5: test 1-2,
30t 2-Corner South

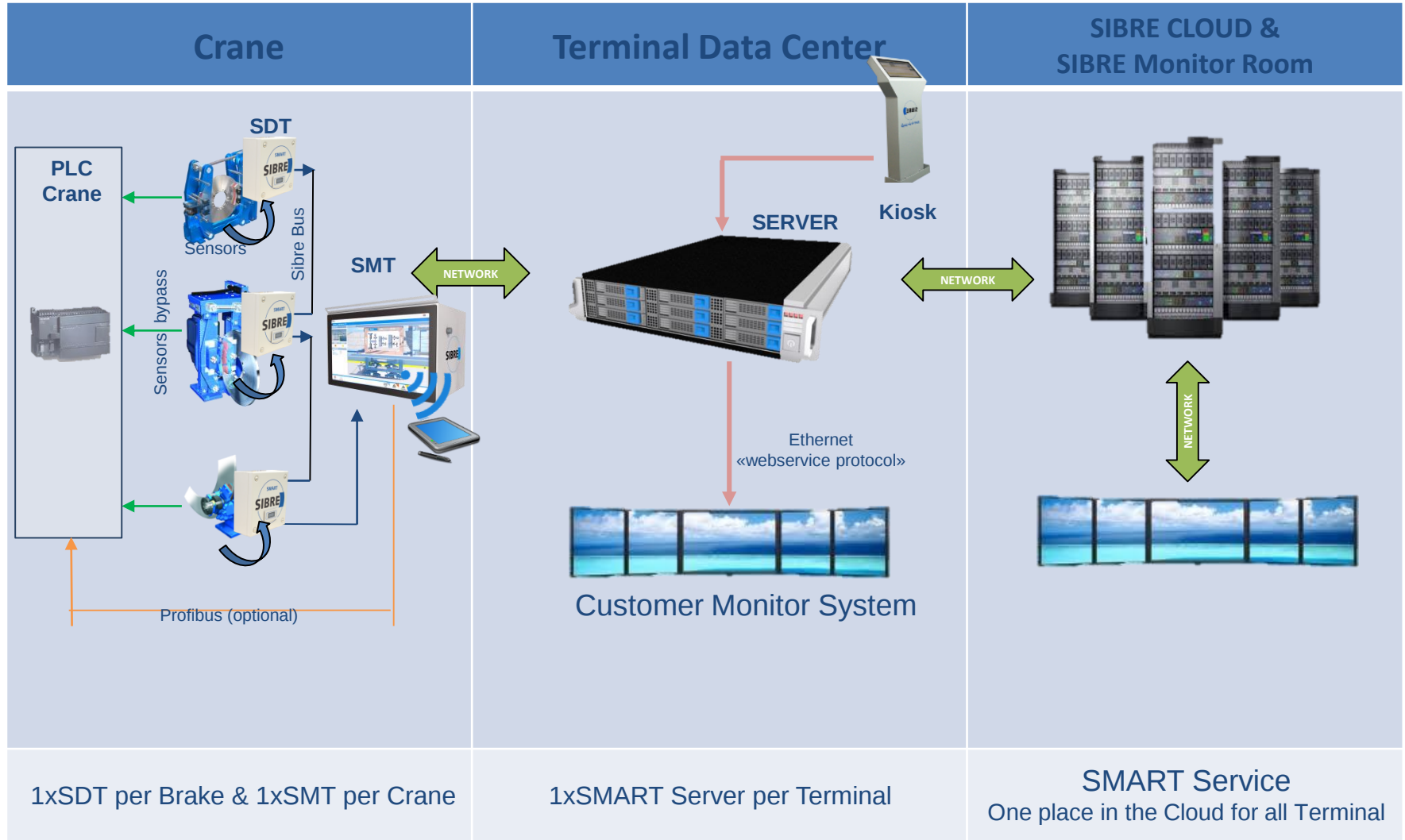


Fig. 6: test 3-4,
25t 1-Corner South

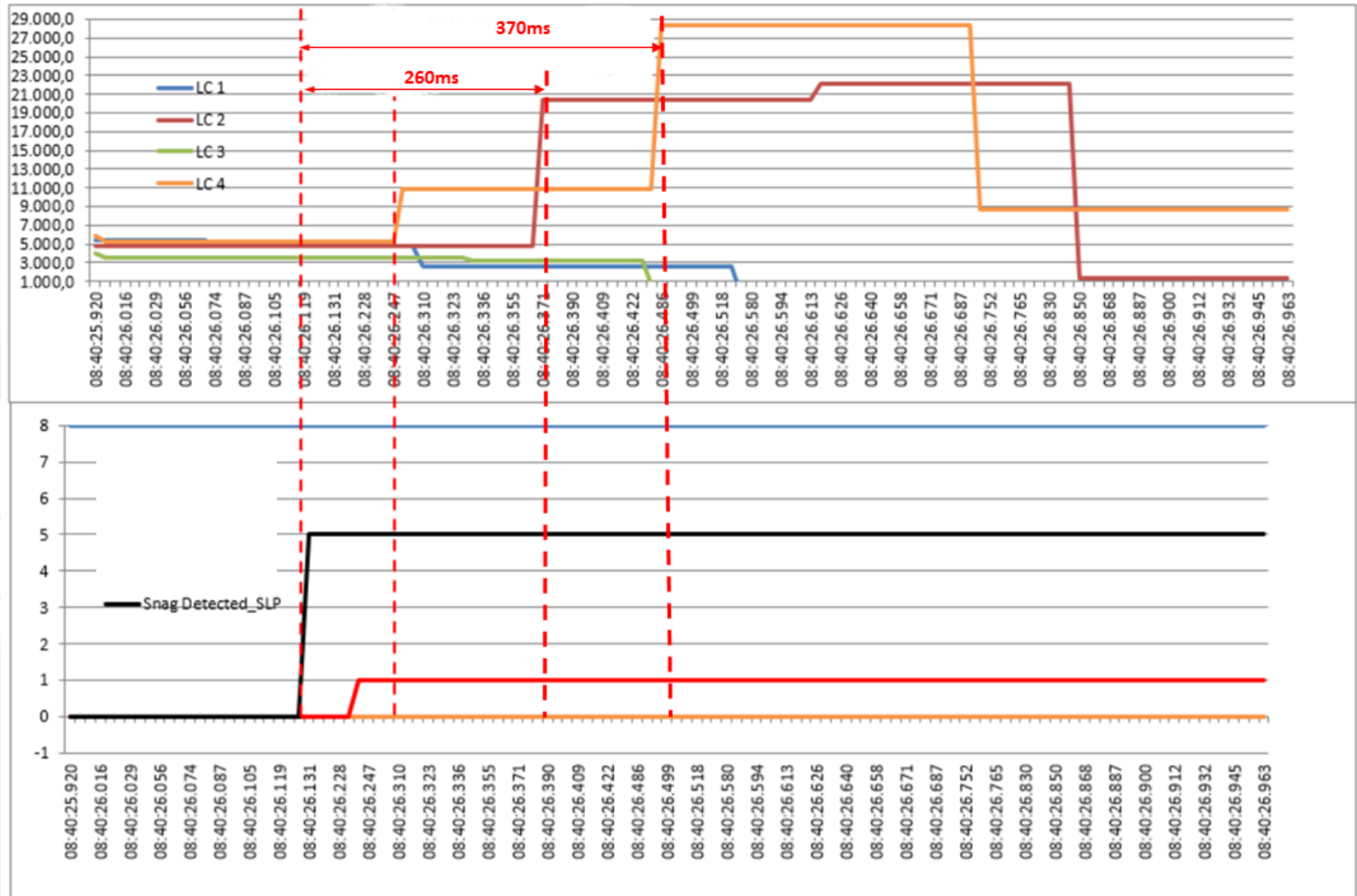


Fig. 7: test 5-6,
5t 1-Corner South









Safety PLC Pluto ■ Electrical Room

