MCWP FOR VERSATILITY, SAFETY AND PRODUCTIVITY

PRESENT BY

Janne Haapalainen

General Manager, Scan-Rent Sdn Bhd

VISIT US
Booth No: S5

VERSATILITY

SCAN-RENT SDN BHD

Petronas Twin Tower

Ilham Baru Tower

IAPA Project of the Year Award; IB Tower Kuala Lumpur, 2015

The Fennel

IAPA Product of the Year Award; Double-Decker, 2018

VERSATILITY

SCAN-RENT SDN BHD

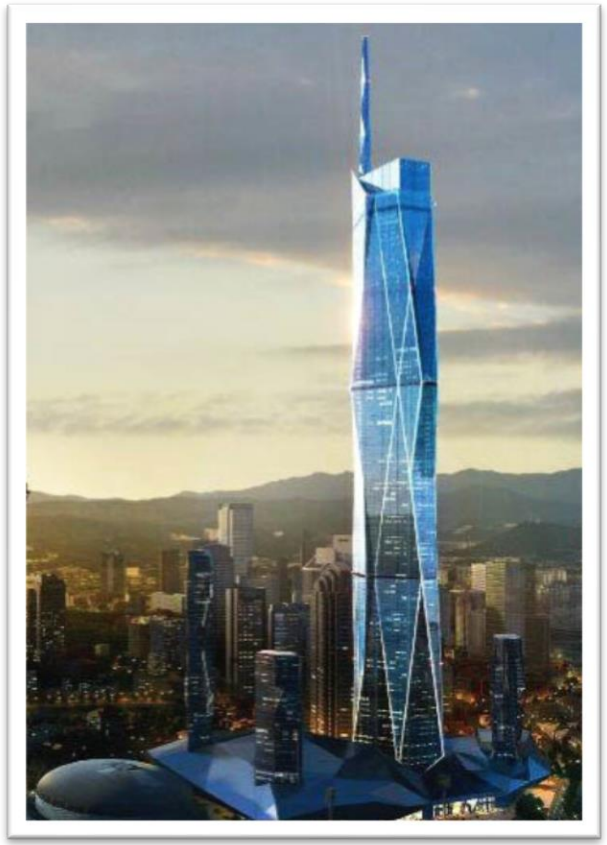
Komtar, Penang

Telekom Tower

MATRADE

VERSATILITY

ON GOING PROJECTS



Merdeka PNB 118

8 Conlay

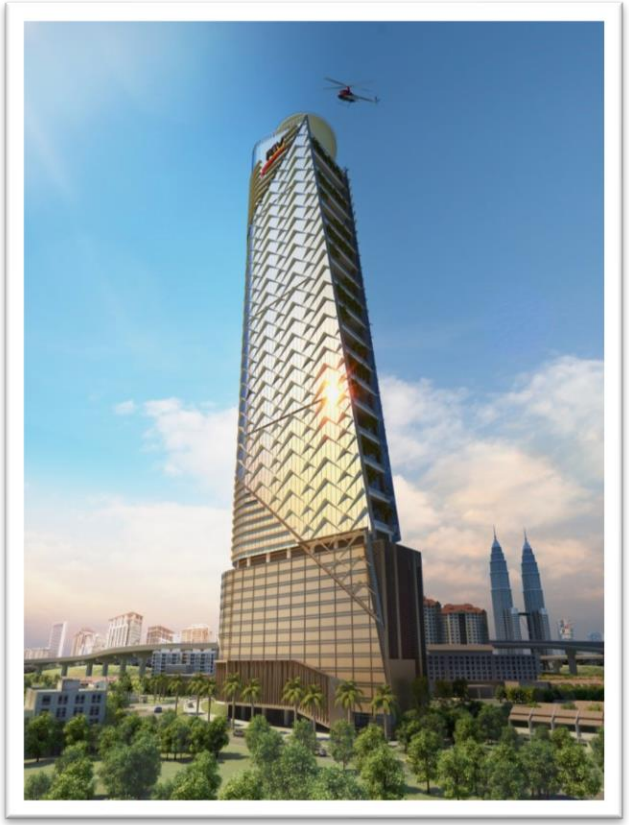
Bukit Bintang City Centre

VERSATILITY

ON GOING PROJECTS

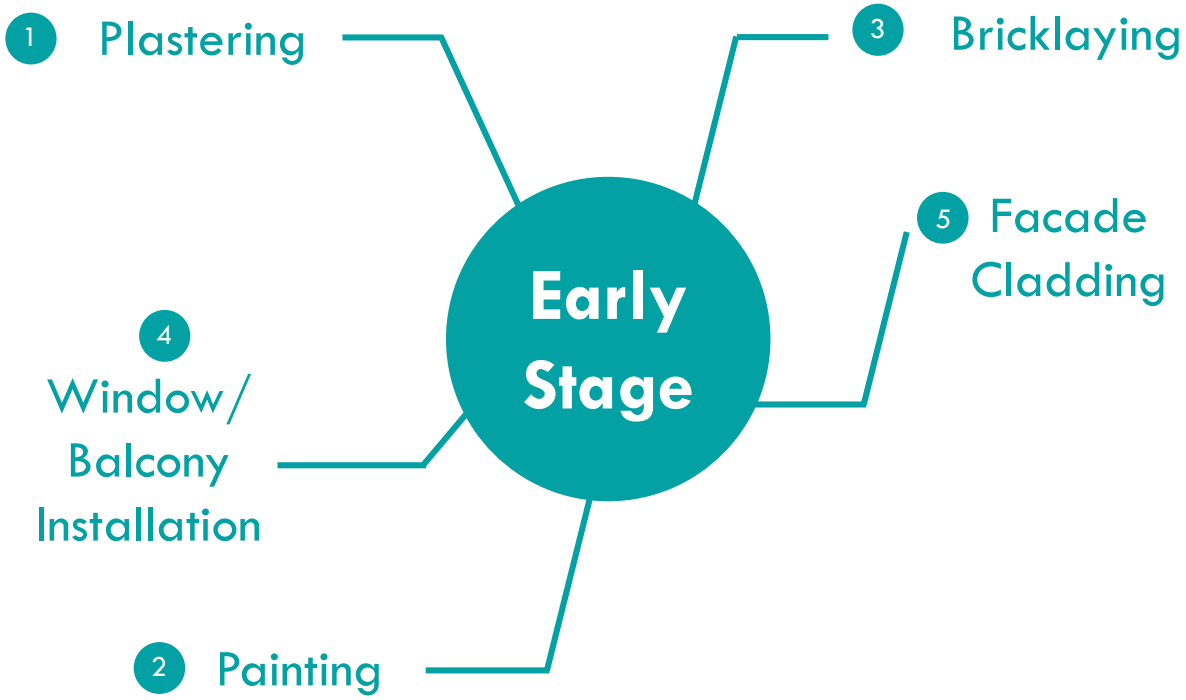
Forest City

D' Twist



KL Vertical City

INDUSTRIES RADICALLY TRANSFORMED



2018

TODAY

- **Construction Industry**
- **Oil & Gas Industry**
- **Facade Refurbishment**
- **Power Plants / Chimney**
- **Shipyards/ Shipbuilding**

WHAT MCWP CAN DO

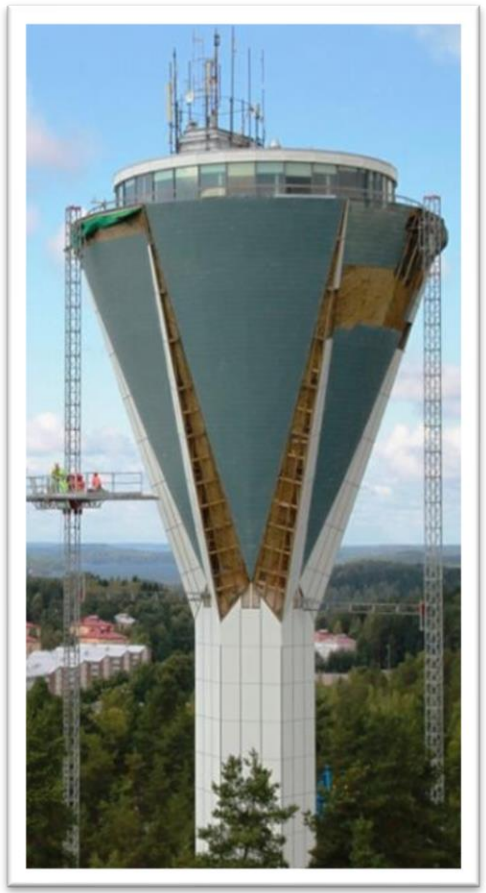
SC 4000

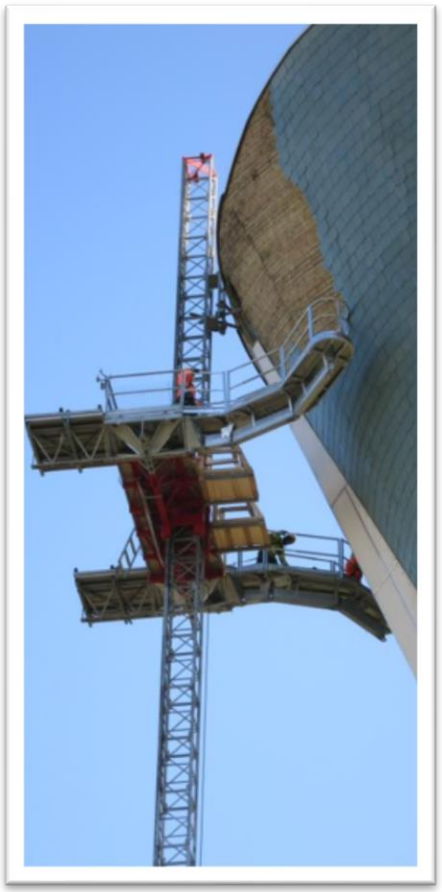
SC 6000

WHAT MCWP CAN DO

ALL REACH EXTENTION (ARE) / DOUBLE-DECKER PLATFORMS

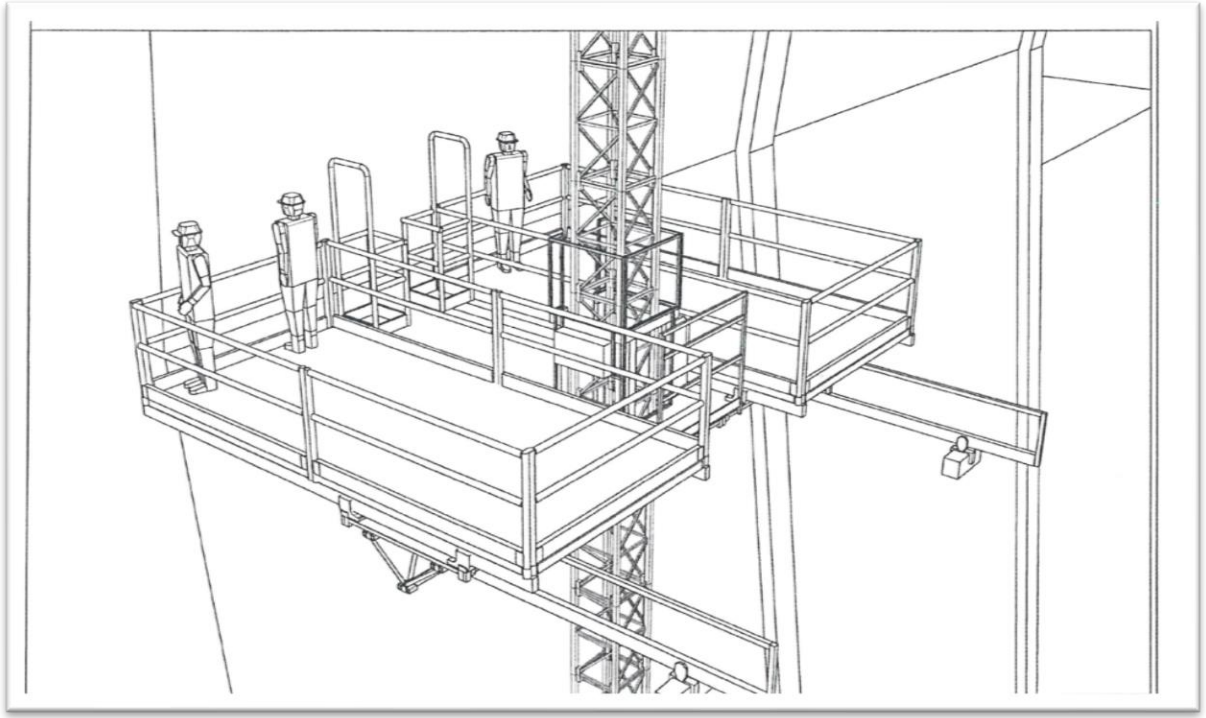
WHAT MCWP CAN DO





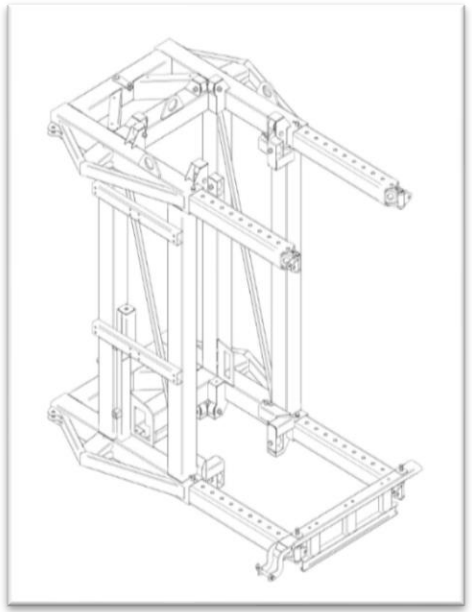
SNAKE PLATFORM

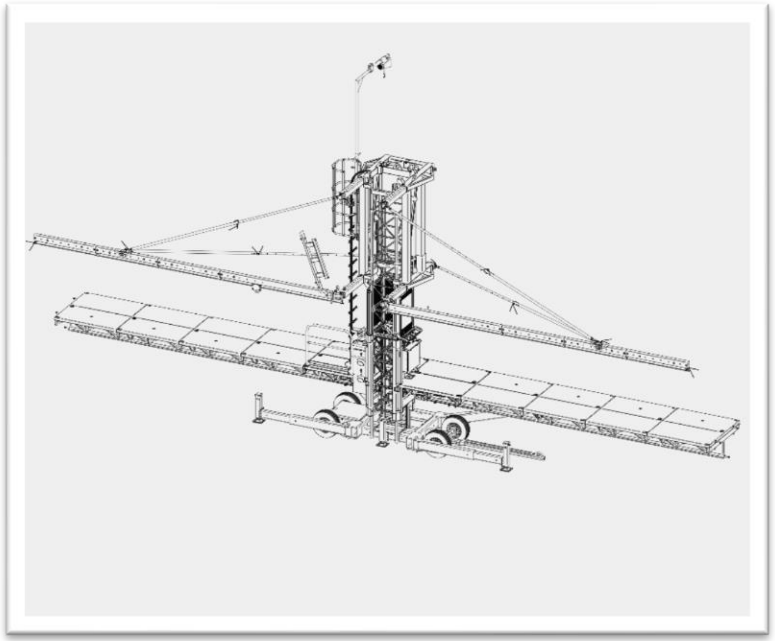
WHAT MCWP CAN DO

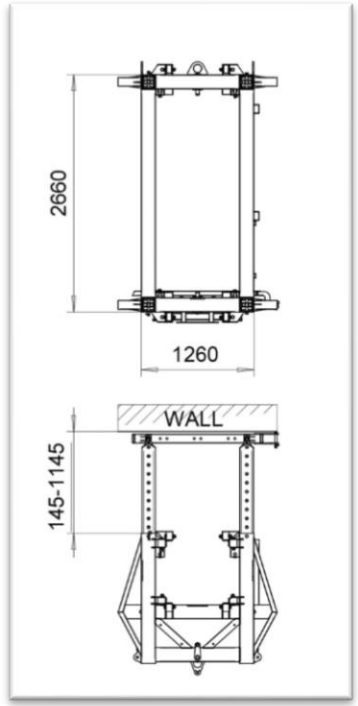


COUNTER WEIGHT PLATFORM

WHAT MCWP CAN DO





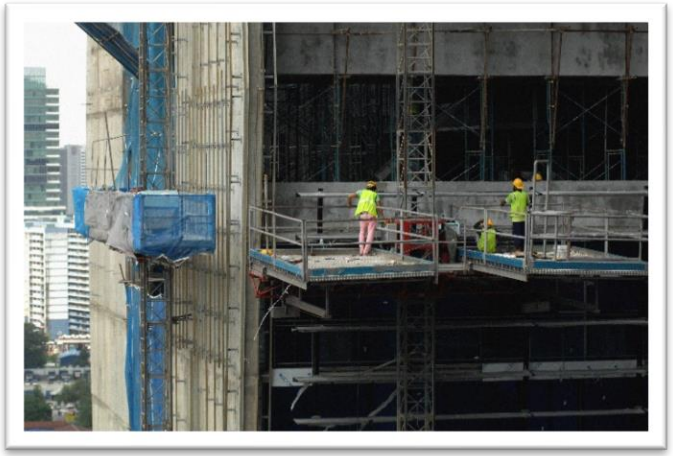


GLIDE RAIL SYSTEM

PROJECT REFERENCE – THE FENNEL, SENTUL

The Fennel

- Kuala Lumpur, Malaysia
- A-, B-, C-, D-blocks, each block consists of four buildings
- Height 154m
- 40x SC4000 with adjustable extensions
- Mast section numbers 3000pcs
- Total 76 MCWP setups



SAFETY

URZĄD DOZORU TECHNICZNEGO
UDT - CERT

CERTIFICATE

No. CSJ/033/2012

Urząd Dozoru Technicznego
Certification Body UDT-CERT
certifies that:

„SCANCLIMBER" Sp. z o.o.

ul. Surowieckiego 9, 62-200 Gniezno

has implemented and maintains a quality management system in compliance with:

EN ISO 9001:2008

Scope of certification:

Design, development, production, installation, service of hoists and platforms.

Date of granting certification:	18.11.2002
Date of issue:	24.02.2012
Certificate is valid until:	23.02.2015

Director of the
Centre for Certification and
Conformity Assessment

Anna Gerymska

President of UDT

Marek Walczak

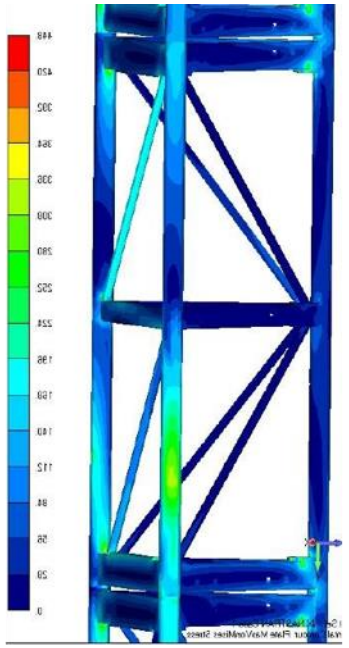
CEOC INTERNATIONAL

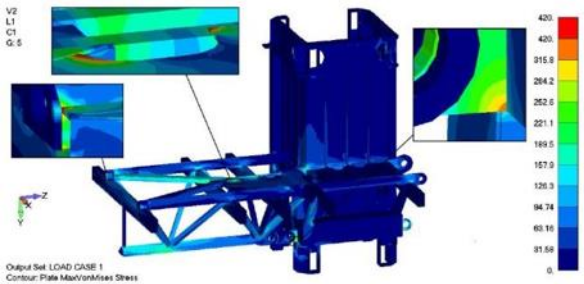
PCA

AC 078
QMS

UDT-CERT, 02-353 WARSZAWA, UL. SZCZĘŚLIWICKA 34

- Machines are designed and manufactured according to European standard
- Calculated, FEM-analyzed
- Machines are type approved and certified by Notified Bodies and in case by national authorities
- Scanclimber is certified by ISO9001





OUR PRINCIPAL

Scanclimber Oy has been our principal for 22 years. We have successfully working together in various MCWP projects without compromising the safety, high quality or durability of our products

- Project Support
- Training
- Inspection
- Machine Refurbishment and Modifications
- Product installation and dismantling
- Troubleshooting and Repairs
- Preventative Maintenance
- Project supervision, Construction/Dismantling

SAFETY TRAINING

- CIDB Green Card
- Basic Rigging & Slinging
- Working Safety at Height (WAH)
- Oil & Gas Safety Passport (OGSP)
- Basic Occupational First Aid
- Hazard Identification, Risk Assessment and Risk Control (HIRARC) Basic
- Effective Safety & Health Committee
- Occupational Safety & Health Act 1994
- Inventory & Stock Management

CHASSIS AND BRACKETS

SCAN-RENT SDN BHD

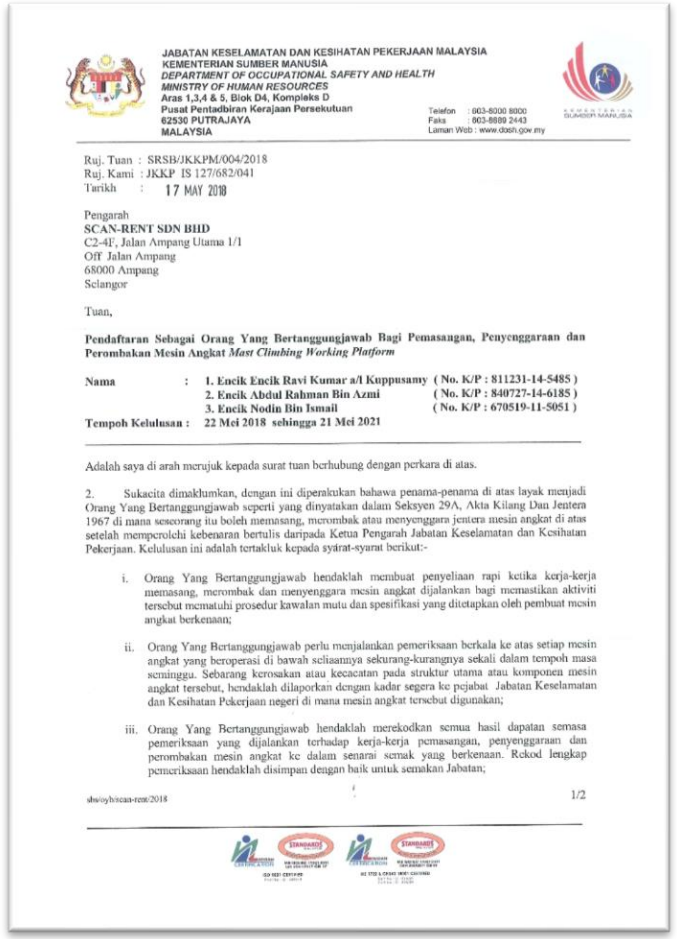
- Wheel chassis: movable, self propelled, high free standing
- Mini chassis: cheap, minimum foot
- Wall brackets
- Special applications on request
- Compatible with all SC-platform types

SAFETY PROCEDURE

SCAN-RENT SDN BHD

Department of Occupational Safety & Health Malaysia (DOSH)

- Competent Firm (FYK) License
- Competent Person (OYB) License



JABATAN KESELAMATAN DAN KESIHATAN PEKERJAAN MALAYSIA
KEMENTERIAN SUMBER MANUSIA
DEPARTMENT OF OCCUPATIONAL SAFETY AND HEALTH
MINISTRY OF HUMAN RESOURCES
Aras 1,3,4 & 5, Blok D4, Kompleks D
Pusat Pentadbiran Kerajaan Persekutuan
62530 PUTRAJAYA
MALAYSIA
Telefon : 603-8000 8000
Faks : 603-8889 2443
Laman Web : www.dosh.gov.my

Ruj. Tuan : SRSB/JKKPM/004/2018
Ruj. Kami : JKKP IS 127/682/041
Tarikh : 17 MAY 2018

Pengarah
SCAN-RENT SDN BHD
C2-4F, Jalan Ampang Utama 1/1
Off Jalan Ampang
68000 Ampang
Selangor

Tuan,

Pendaftaran Sebagai Orang Yang Bertanggungjawab Bagi Pemasangan, Penyenggaraan dan Perombakan Mesin Angkat *Mast Climbing Working Platform*

Nama : **1. Encik Encik Ravi Kumar a/l Kuppusamy (No. K/P : 811231-14-5485)**
2. Encik Abdul Rahman Bin Azmi (No. K/P : 840727-14-6185)
3. Encik Nodin Bin Ismail (No. K/P : 670519-11-5051)
Tempoh Kelulusan : 22 Mei 2018 sehingga 21 Mei 2021

Adalah saya di arah merujuk kepada surat tuan berhubung dengan perkara di atas.

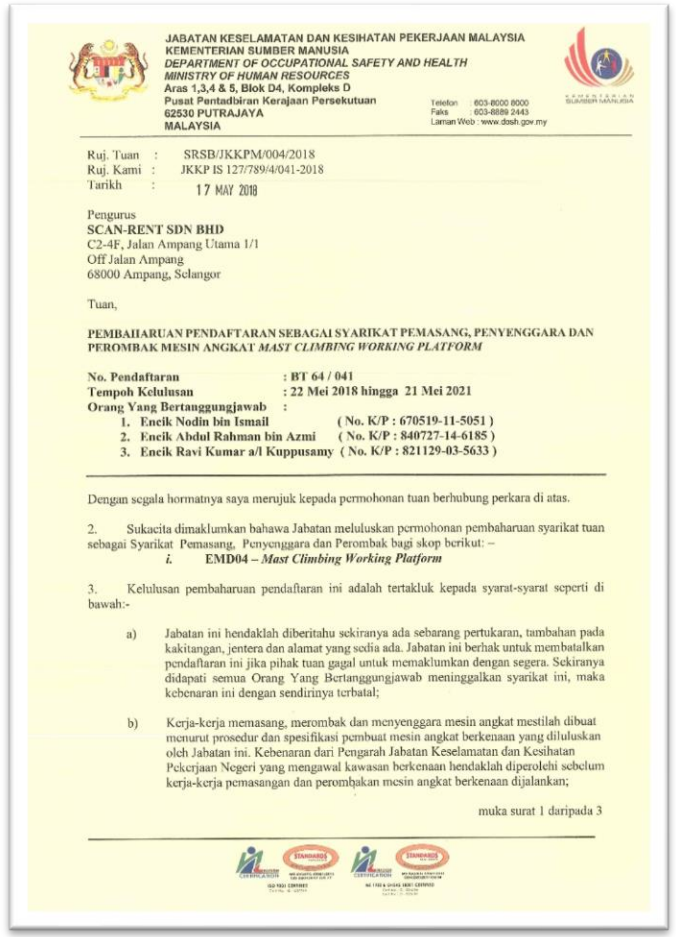
2. Sukacita dimaklumkan, dengan ini diperakukan bahawa penama-penama di atas layak menjadi Orang Yang Bertanggungjawab seperti yang dinyatakan dalam Seksyen 29A, Akta Kilang Dan Jentera 1967 di mana seseorang itu boleh memasang, merombak atau menyenggara jentera mesin angkat di atas setelah memperolehi kebenaran bertulis daripada Ketua Pengarah Jabatan Keselamatan dan Kesihatan Pekerjaan. Kelulusan ini adalah tertakluk kepada syarat-syarat berikut:-

i. Orang Yang Bertanggungjawab hendaklah membuat penyeliaan rapi ketika kerja-kerja memasang, merombak dan menyenggara mesin angkat dijalankan bagi memastikan aktiviti tersebut mematuhi prosedur kawalan mutu dan spesifikasi yang ditetapkan oleh pembuat mesin angkat berkenaan;

ii. Orang Yang Bertanggungjawab perlu menjalankan pemeriksaan berkala ke atas setiap mesin angkat yang beroperasi di bawah seliaannya sekurang-kurangnya sekali dalam tempoh masa seminggu. Sebarang kerosakan atau kecacatan pada struktur utama atau komponen mesin angkat tersebut, hendaklah dilaporkan dengan kadar segera ke pejabat Jabatan Keselamatan dan Kesihatan Pekerjaan negeri di mana mesin angkat tersebut digunakan;

iii. Orang Yang Bertanggungjawab hendaklah merekodkan semua hasil dapatan semasa pemeriksaan yang dijalankan terhadap kerja-kerja pemasangan, penyenggaraan dan perombakan mesin angkat ke dalam senarai semak yang berkenaan. Rekod lengkap pemeriksaan hendaklah disimpan dengan baik untuk semakan Jabatan;

sh/oy/scan-rent/2018 1/2



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MINISTRY OF HUMAN RESOURCES
Aras 1,3,4 & 5, Blok D4, Kompleks D
Pusat Pentadbiran Kerajaan Persekutuan
62530 PUTRAJAYA
MALAYSIA
Telefon : 603-8000 8000
Faks : 603-8889 2443
Laman Web : www.dosh.gov.my

Ruj. Tuan : SRSB/JKKPM/004/2018
Ruj. Kami : JKKP IS 127/789/4/041-2018
Tarikh : 17 MAY 2018

Pengurus
SCAN-RENT SDN BHD
C2-4F, Jalan Ampang Utama 1/1
Off Jalan Ampang
68000 Ampang, Selangor

Tuan,

PEMBAHARUAN PENDAFTARAN SEBAGAI SYARIKAT PEMASANG, PENYENGGARA DAN PEROMBAK MESIN ANGKAT *MAST CLIMBING WORKING PLATFORM*

No. Pendaftaran : BT 64 / 041
Tempoh Kelulusan : 22 Mei 2018 hingga 21 Mei 2021
Orang Yang Bertanggungjawab :
1. Encik Nodin bin Ismail (No. K/P : 670519-11-5051)
2. Encik Abdul Rahman bin Azmi (No. K/P : 840727-14-6185)
3. Encik Ravi Kumar a/l Kuppusamy (No. K/P : 821129-03-5633)

Dengan segala hormatnya saya merujuk kepada permohonan tuan berhubung perkara di atas.

2. Sukacita dimaklumkan bahawa Jabatan meluluskan permohonan pembaharuan syarikat tuan sebagai Syarikat Pemasang, Penyenggara dan Perombak bagi skop berikut: –
i. **EMD04 – *Mast Climbing Working Platform***

3. Kelulusan pembaharuan pendaftaran ini adalah tertakluk kepada syarat-syarat seperti di bawah:-

a) Jabatan ini hendaklah diberitahu sekiranya ada sebarang pertukaran, tambahan pada kakitangan, jentera dan alamat yang sedia ada. Jabatan ini berhak untuk membatalkan pendaftaran ini jika pihak tuan gagal untuk memaklumkan dengan segera. Sekiranya didapati semua Orang Yang Bertanggungjawab meninggalkan syarikat ini, maka kebenaran ini dengan sendirinya terbatal;

b) Kerja-kerja memasang, merombak dan menyenggara mesin angkat mestilah dibuat menurut prosedur dan spesifikasi pembuat mesin angkat berkenaan yang diluluskan oleh Jabatan ini. Kebenaran dari Pengarah Jabatan Keselamatan dan Kesihatan Pekerjaan Negeri yang mengawal kawasan berkenaan hendaklah diperolehi sebelum kerja-kerja pemasangan dan perombakan mesin angkat berkenaan dijalankan;

muka surat 1 daripada 3

SAFETY PROCEDURE

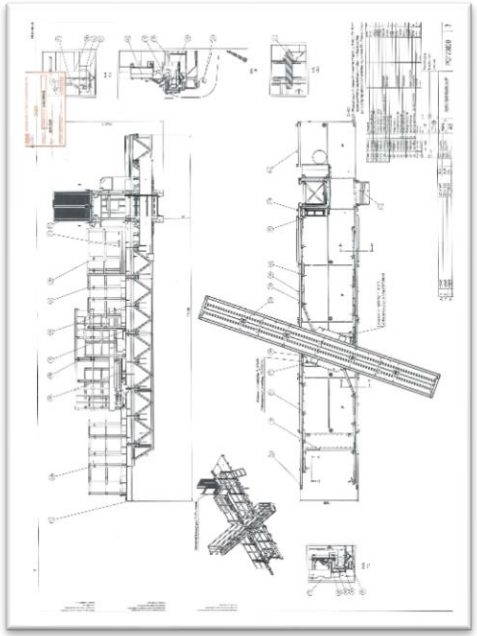
SCAN-RENT SDN BHD

Department of Occupational Safety & Health Malaysia (DOSH)

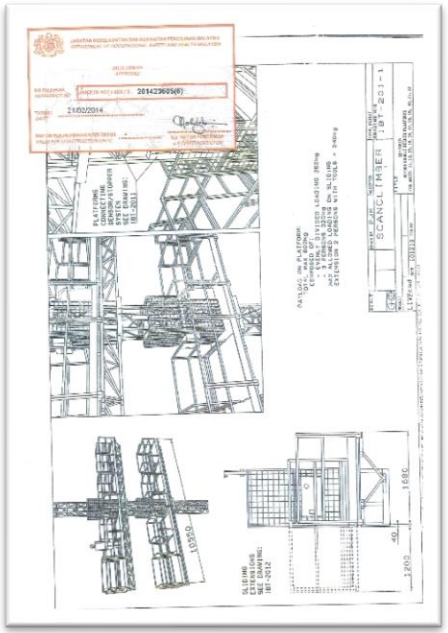
- Product & Design Approval License - SC4000, Double-decker, Sliding Platform, SC6000 with All Reach Extension (ARE)

SC 4000

SC 6000



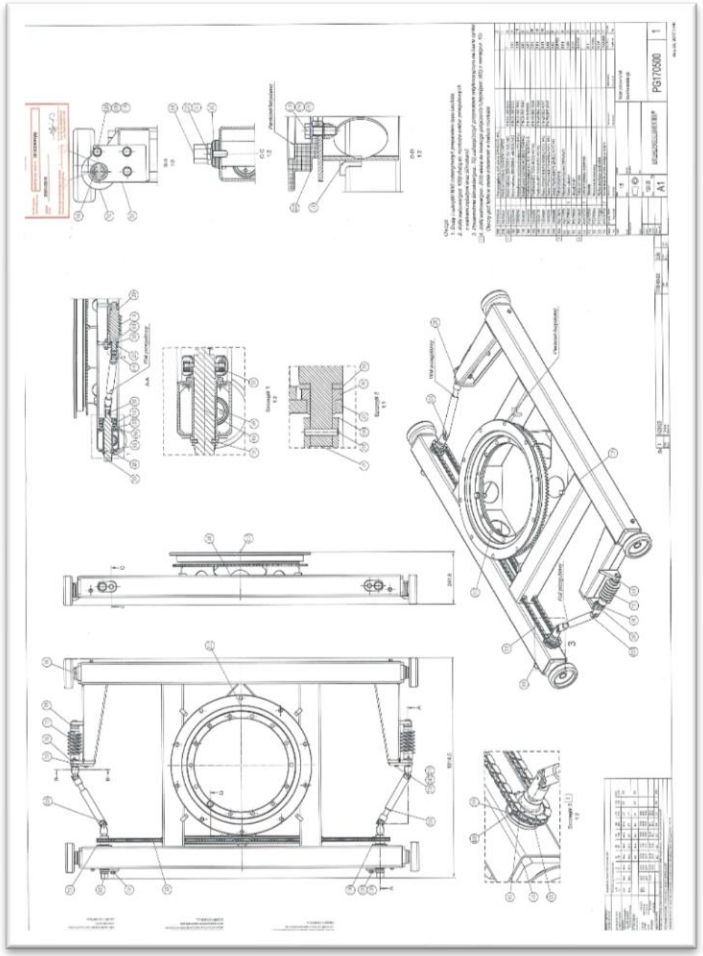
All Reach Extension (ARE)

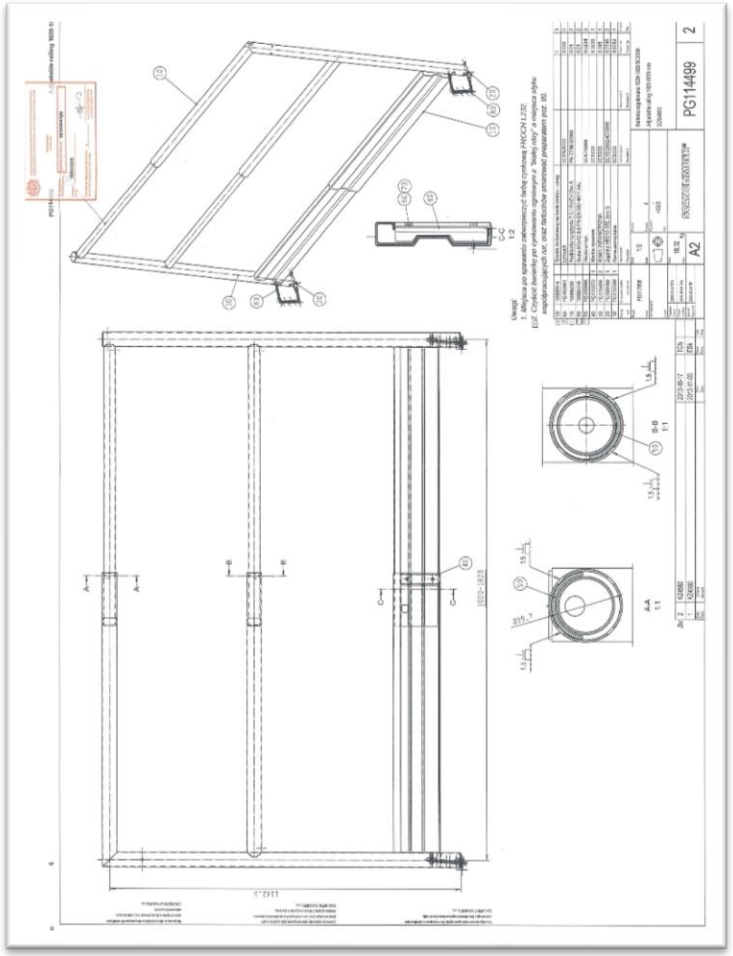


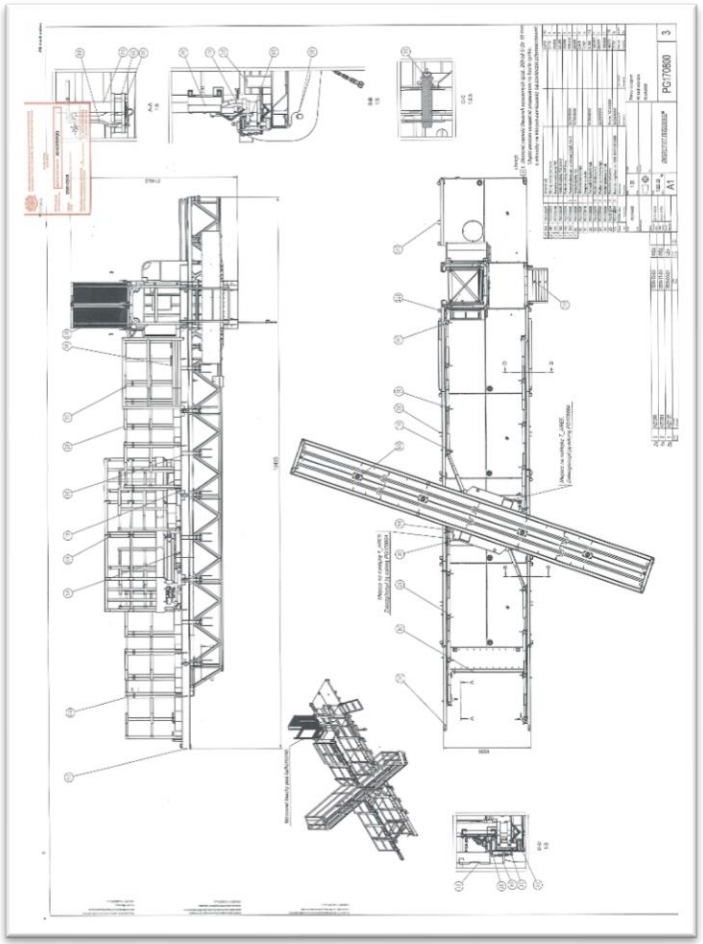
Double-Decker

ALL REACH EXTENSION (ARE) DESIGN APPROVAL

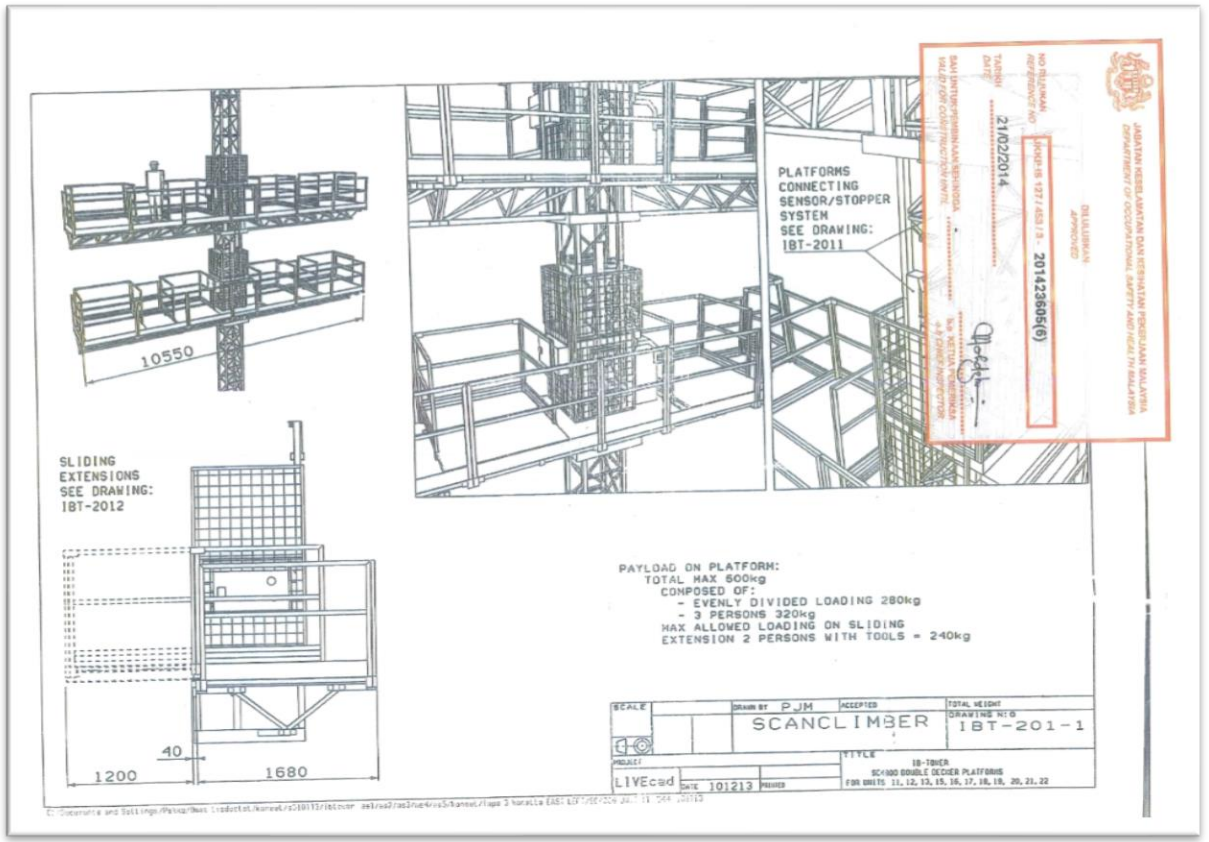
SCAN-RENT SDN BHD

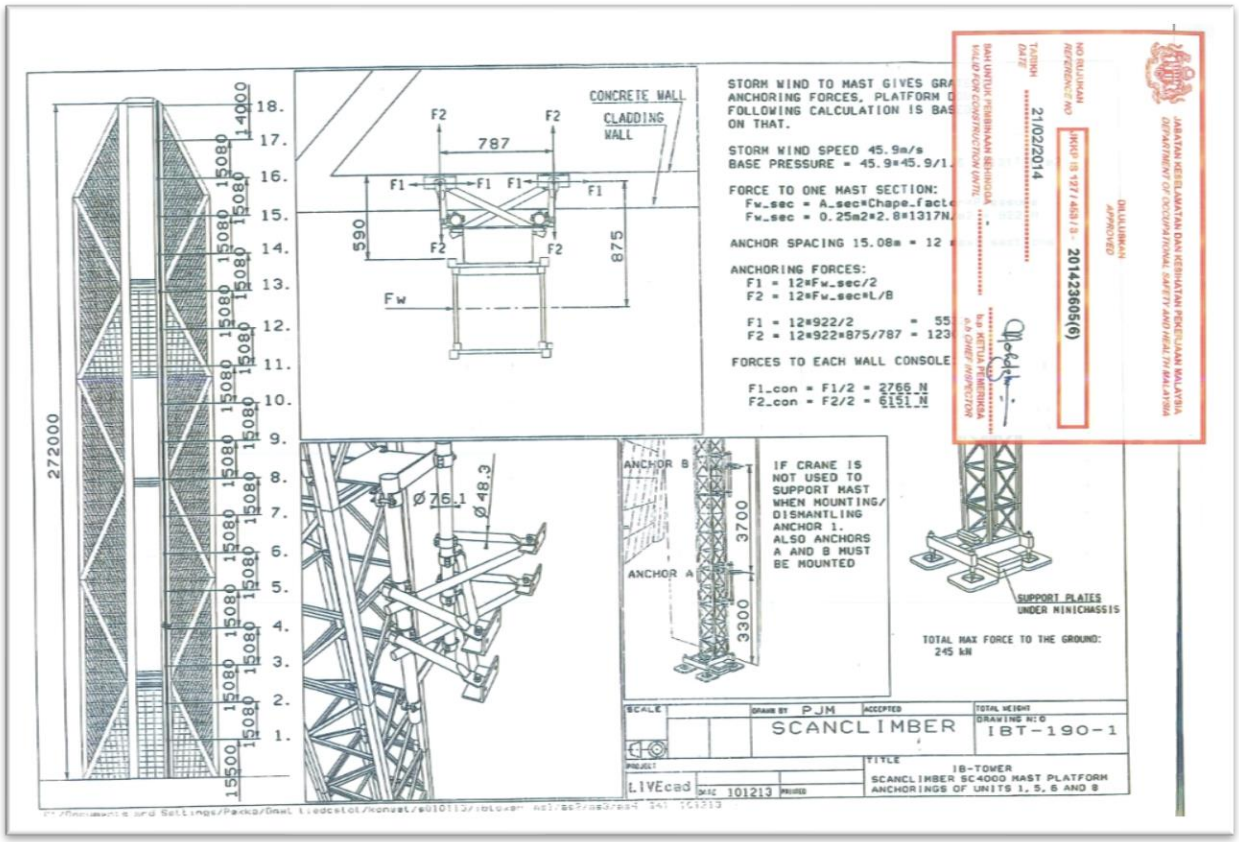




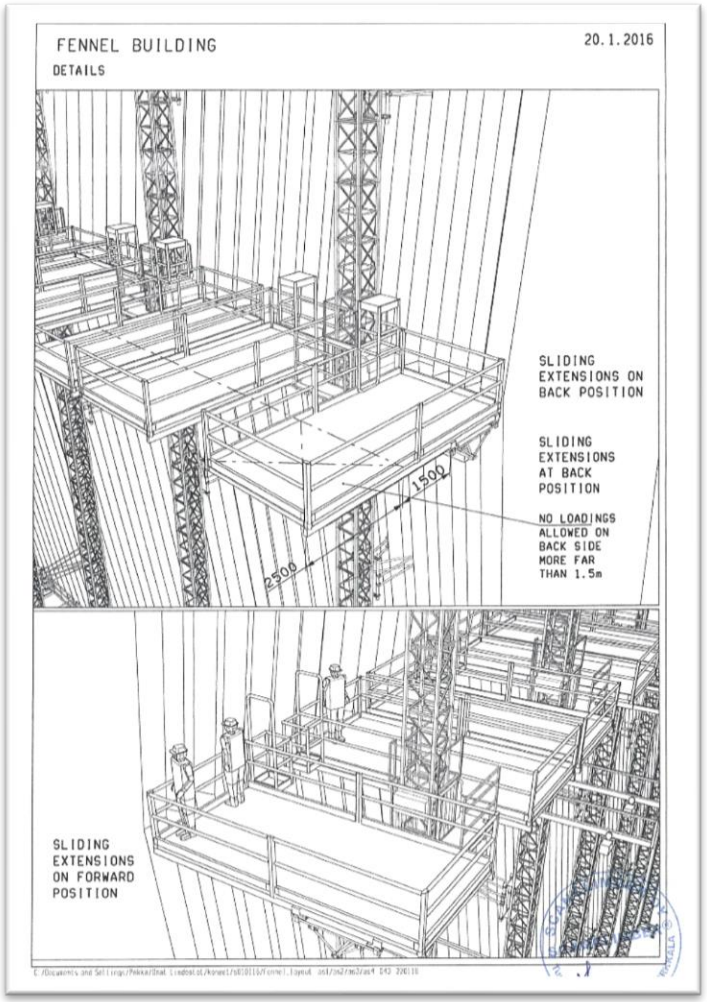


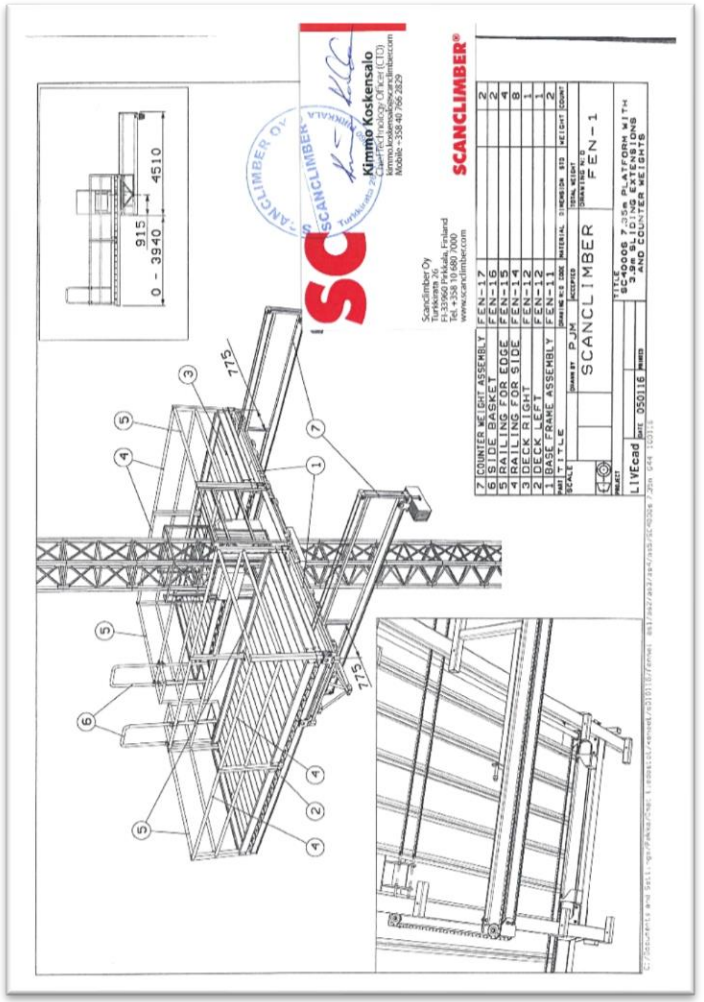
DOUBLE-DECKER DESIGN APPROVAL

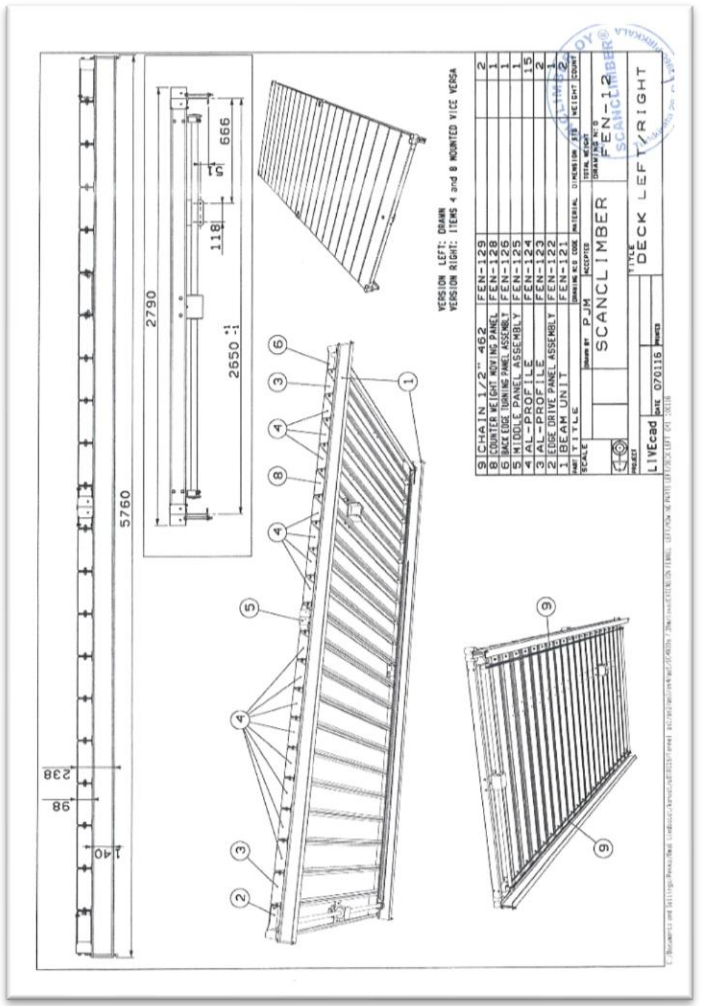




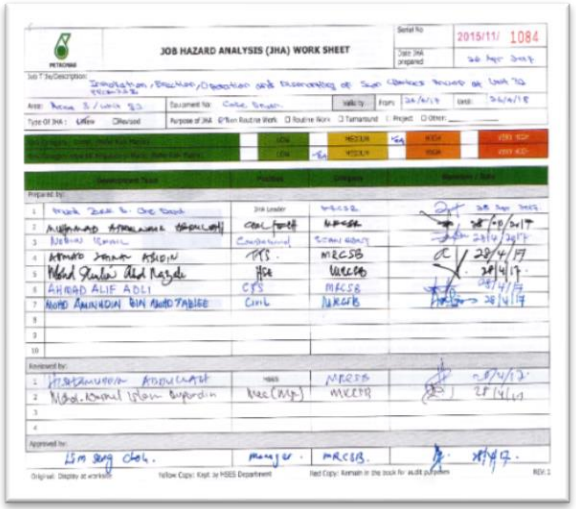
SLIDING PLATFORM DESIGN APPROVAL

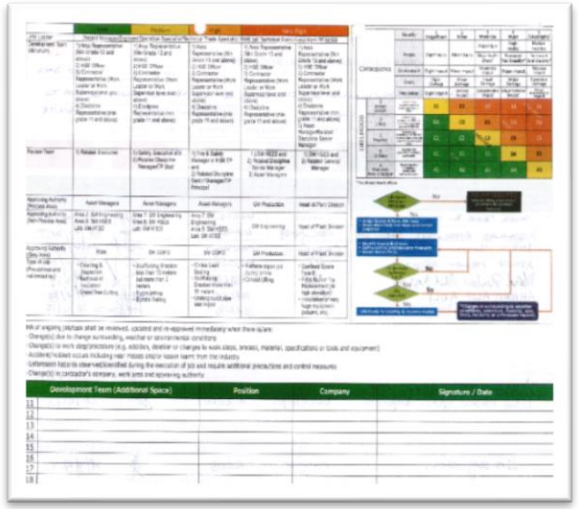




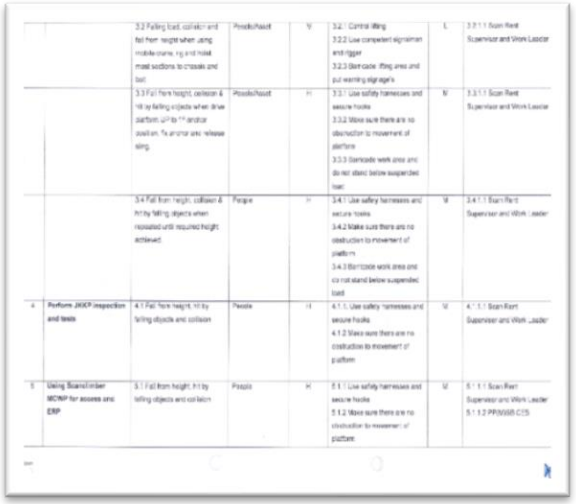


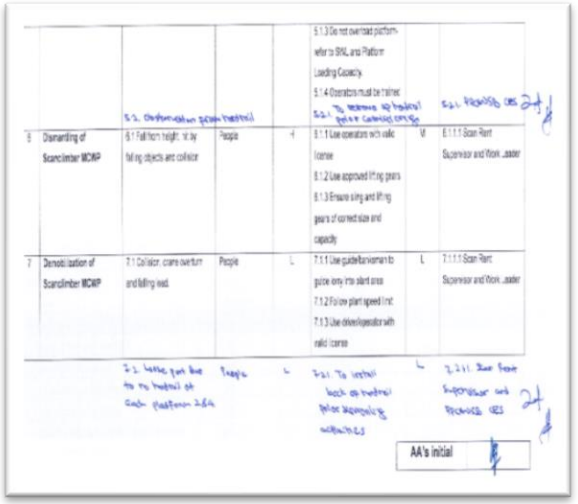
SAMPLE JOB HAZARD ANALYSIS (JHA)

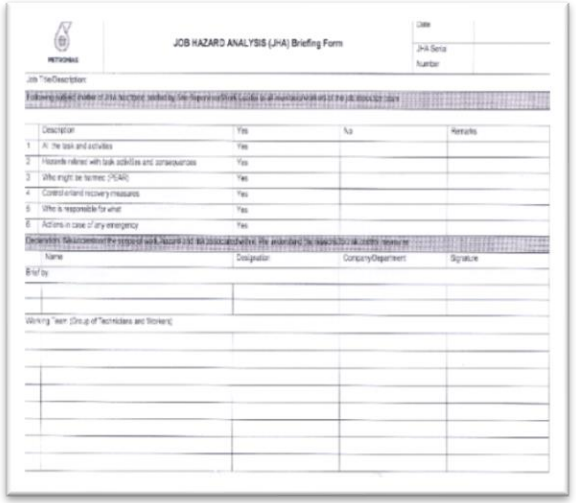

JOB HAZARD ANALYSIS (JHA) WORK SHEET




JOB HAZARD ANALYSIS (JHA) ANALYSIS WORK SHEET





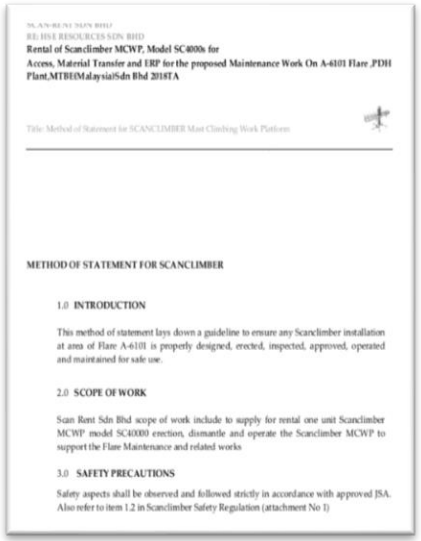

JOB HAZARD ANALYSIS (JHA) Briefing Form

SAMPLE METHOD OF STATEMENT (MOS)

SCAN-RENT SDN BHD
RE: HSE RESOURCES SDN BHD
Rental of Scanclimber MCWP, Model SC4000s for
Access, Material Transfer and ERP for the proposed Maintenance Work On A-6101 Flare ,PDH Plant,MTBE(Malaysia)Sdn Bhd 2018TA

Title: Method of Statement for SCANCLIMBER Mast Climbing Work Platform

TABLE OF CONTENTS



SCAN-RENT SDN BHD
RE: HSE RESOURCES SDN BHD
Rental of Scanclimber MCWP, Model SC4000s for
Access, Material Transfer and ERP for the proposed Maintenance Work On A-6101 Flare ,PDH Plant,MTBE(Malaysia)Sdn Bhd 2018TA

Title: Method of Statement for SCANCLIMBER Mast Climbing Work Platform

METHOD OF STATEMENT FOR SCANCLIMBER

1.0 INTRODUCTION

This method of statement lays down a guideline to ensure any Scanclimber installation at area of Flare A-6101 is properly designed, erected, inspected, approved, operated and maintained for safe use.

2.0 SCOPE OF WORK

Scan Rent Sdn Bhd scope of work include to supply for rental one unit Scanclimber MCWP model SC4000 erection, dismantle and operate the Scanclimber MCWP to support the Flare Maintenance and related works

3.0 SAFETY PRECAUTIONS

Safety aspects shall be observed and followed strictly in accordance with approved JSA. Also refer to item 1.2 in Scanclimber Safety Regulation (attachment No 1)

SCAN-RENT SDN BHD
RE: HSE RESOURCES SDN BHD
Rental of Scanclimber MCWP, Model SC4000s for
Access, Material Transfer and ERP for the proposed Maintenance Work On A-6101 Flare ,PDH Plant,MTBE(Malaysia)Sdn Bhd 2018TA

Title: Method of Statement for SCANCLIMBER Mast Climbing Work Platform

4.0 LIST OF EQUIPMENT AND MACHINERIES

ITEM	DESCRIPTION	QTY	REMARK
1	Basic Unit Scanclimber SC4000	1nos	
2	Mast sections	12nos	
3	Anchoring sets	10sets	
4	Platform extension tubes	6nos	
5	Incoming and overhang cable	200m	
6	Counter weight (Test Loads)	2tonne	
7	Erection and Installation Tools	1sets	

5.0 SCANCLIMBER INSTALLATION AND ERECTION REQUIREMENT

The following items should be considered and complied with during installation and erection activities of Scanclimber.

5.1 Condition of the machine and its parts (refer attachment no 2 FREQUENT INSPECTION FORM) only inspected unit with valid PMA should be installed.

5.2 Ground condition, make sure surface free of obstruction, leveled and well compacted on hard surface such as steel or concrete. Make sure that it has sufficient strength and thickness to support load.

5.3 Working platform.
(Refer to attachment for platform dimensions and loading Capacity).

5.4 Scanclimber Safety Requirements
(Refer attached SAFETY REGULATION)

5.5 General guideline for Installation and Erection:

RE: HSE RESOURCES SDN BHD
Rental of Scanclimber MCWP, Model SC4000s for
Access, Material Transfer and ERP for the proposed Maintenance Work On A-6101 Flare ,PDH Plant,MTBE(Malaysia)Sdn Bhd 2018TA

Title: Method of Statement for SCANCLIMBER Mast Climbing Work Platform

- Only qualified personnel is allowed to install, erect and operate the Work Platform
- Ensure fall protection equipment is available prior to commencement of erection and used appropriately
- Scanclimber and its parts should be delivered to the approved lay down area inside PDH Plant.

6.0 INSTALLATION AND ERECTION PROCEDURE

6.1 Mobilization of Scanclimber and parts to the approved lay down area beside the Flare Tower

6.2 Setting out for Scanclimber exact location (refer sketch of plot plan).Checking Ground condition and laying of steel plates for outrigger leg.

6.3 Erection and anchoring
- Pre ensemble mast sections at ground level into 9 sections (refer to Scanclimber Drawings for
- Lengths of each sections
- Install Mast Plates at correct position and orientation for the 1st Anchor
- Fix and bolt Mast Top Cap to top end of section 1(length 20 meter)
- Rig and hoist 1st length of the mast to chassis using mobile crane
- Connect to main chassis and bolt joints with the crane still supporting the mast
- Align and check verticality and match to the angle of the flare structure.
- Drive up platform to the 1st anchor point, check verticality and alignment of theScanclimber against the Flare Structure. Fix anchor and tightened all bolts
- Drive platform further up to release crane, by unbolting the Top Cap.

6.4Drive down platform to ground level, check movement of platform up and down and stability.
During the installation and erection platform length in use will be 4.2meter

6.4 Repeat steps to complete erection of Scanclimber UP to 150 meter.

6.5 DOSH COMPETENT PERSON from SRSB will conduct own test runs and prepare

RE: HSE RESOURCES SDN BHD
Rental of Scanclimber MCWP, Model SC4000s for
Access, Material Transfer and ERP for the proposed Maintenance Work On A-6101 Flare ,PDH Plant,MTBE(Malaysia)Sdn Bhd 2018TA

Title: Method of Statement for SCANCLIMBER Mast Climbing Work Platform

6.6 Conduct Inspection and Load Test for the unit with JKKP Inspector and proceed to use the Scanclimber MCWP to support Flare Refurbishment Work.

7.0 WORK PREPARATION

Scan-Rent Sdn Bhd together with HRSB and MTBE Representative will conduct joint site visit to verify the followings:

7.1 Safe Location
- To determine exact work area where Scanclimber will be install and operated.
- No obstruction to restrict the movement of the work platform
- Adequate space for movement of the platform during shifting and operation.
- To ensure that Scanclimber does not obstruct existing essential services
- Within the Plant area such as Fire Hydrant, Services Manholes, fire exits
- Cage ladders and roads without prior approval from authorized MTBE Personnel.
- To ensure that should Scanclimber to be install close to instruments or other sensitive equipments there will be no direct impact or weight
- Stress imposed on the equipment and to ensure no climbing on all existing facility or instrument equipments.

7.2 Minimum obstruction to existing walkways, cage ladders or platform

7.3 Most efficient use of existing ladders, stairways and platforms

7.4 Required platforms area and platform loads

7.5 Method of storage and transportation

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7.6 Prior to installation and erection Scanclimber Technical Supervisor shall conduct own inspection on condition of machine, parts and required equipments and tools. (Refer erection form and daily inspection form attached)

7.7 Upon completion of planning and site preparation Supervisor should apply for PTW and prepare the necessary documents.

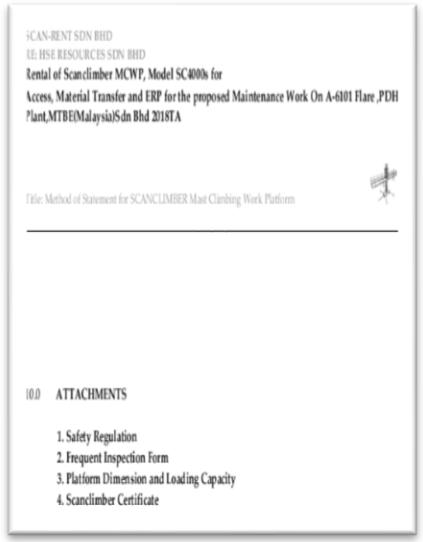
8.0 SCANCLIMBER INSPECTION CRITERIA

8.1 Inspection
- Scanclimber and its main components should be inspected by MTBE Electrical and Mechanical Dept. prior to entry into plant.
- All main components including wheel chassis, mast sections, platforms, supply and overhang cables should be inspected and free from defects prior to operations.
- Condition of rack and pinion, safety brake, lifting and drive motor should be checked and tested (refer checklist attached)
- Also check electrical components, cable and cable glands, leveling device, functions of remote control, chassis and platform electrical box.

9.0 MAINTENANCE

Daily and periodic maintenance will be carried out to ensure smooth and safe operation of Scanclimber (refer item 2.3 of the Operation Manual).

7.0 SAFETY PRECAUTION



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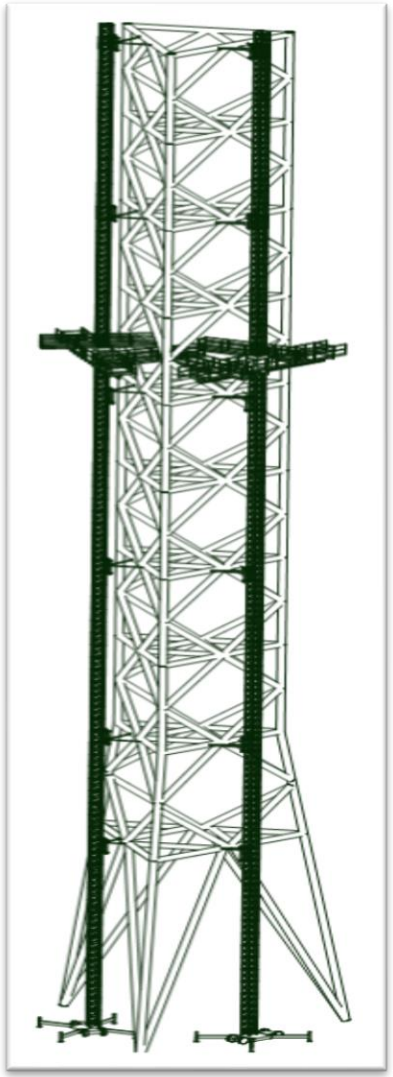
Title: Method of Statement for SCANCLIMBER Mast Climbing Work Platform

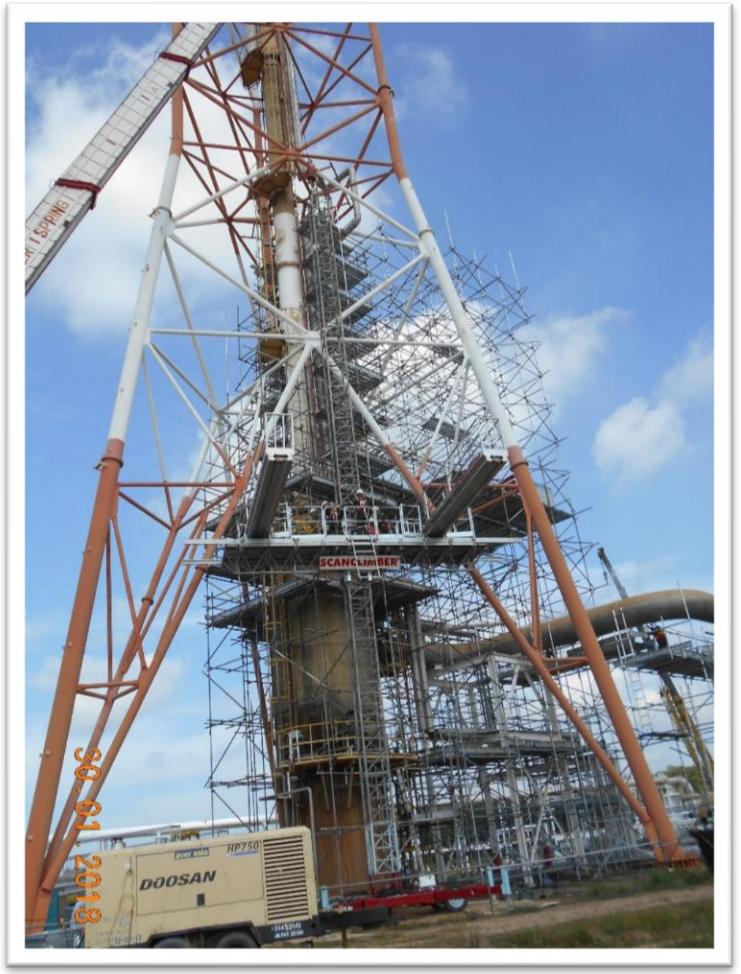
10.0 ATTACHMENTS

1. Safety Regulation
2. Frequent Inspection Form
3. Platform Dimension and Loading Capacity
4. Scanclimber Certificate

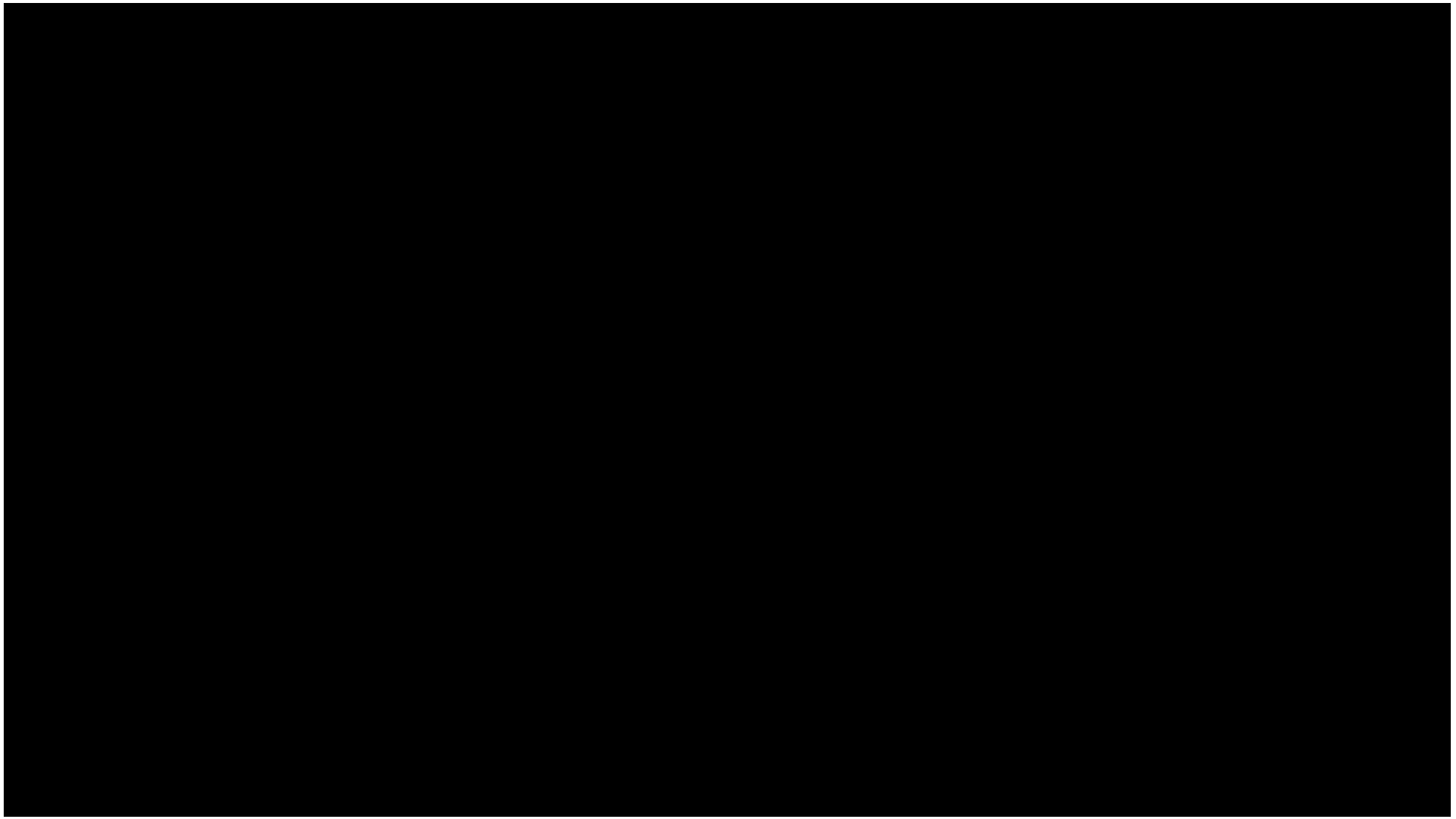
PROJECT REFERENCE – FLARE TOWER, MELAKA

SCAN-RENT SDN BHD



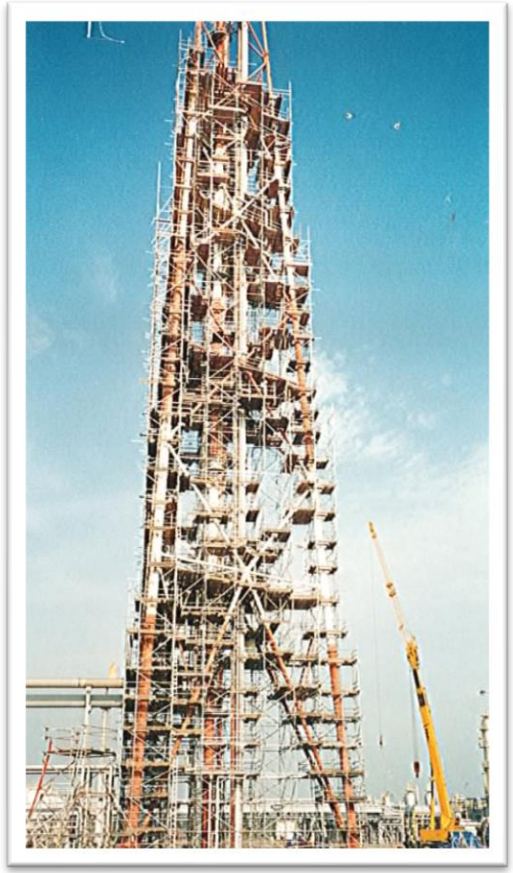


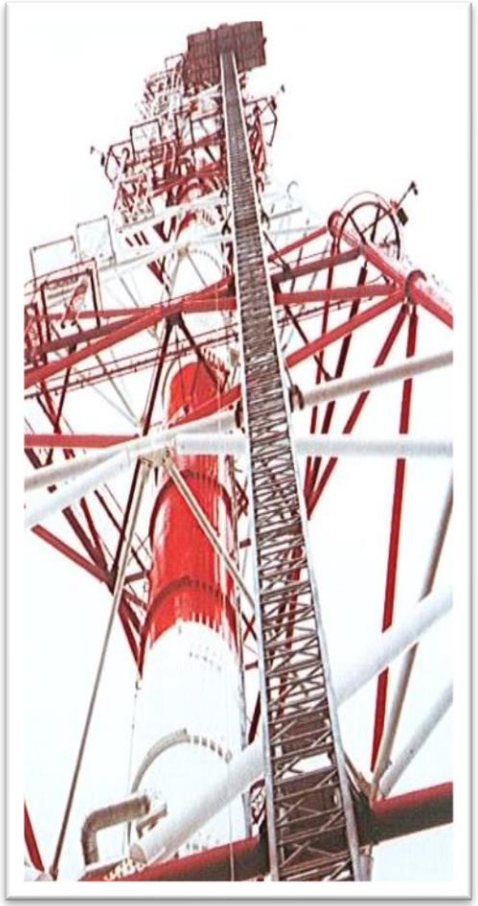
VIDEO-ARE



SCAN-RENT SDN BHD

MCWP vs SCAFFOLDING





Which one looks *faster* to assemble and start to work?

Which one looks more *effective* from logistics point of view?

Which one looks *easier* to transport people and material?

MCWP vs SCAFFOLDING

SCAN-RENT SDN BHD

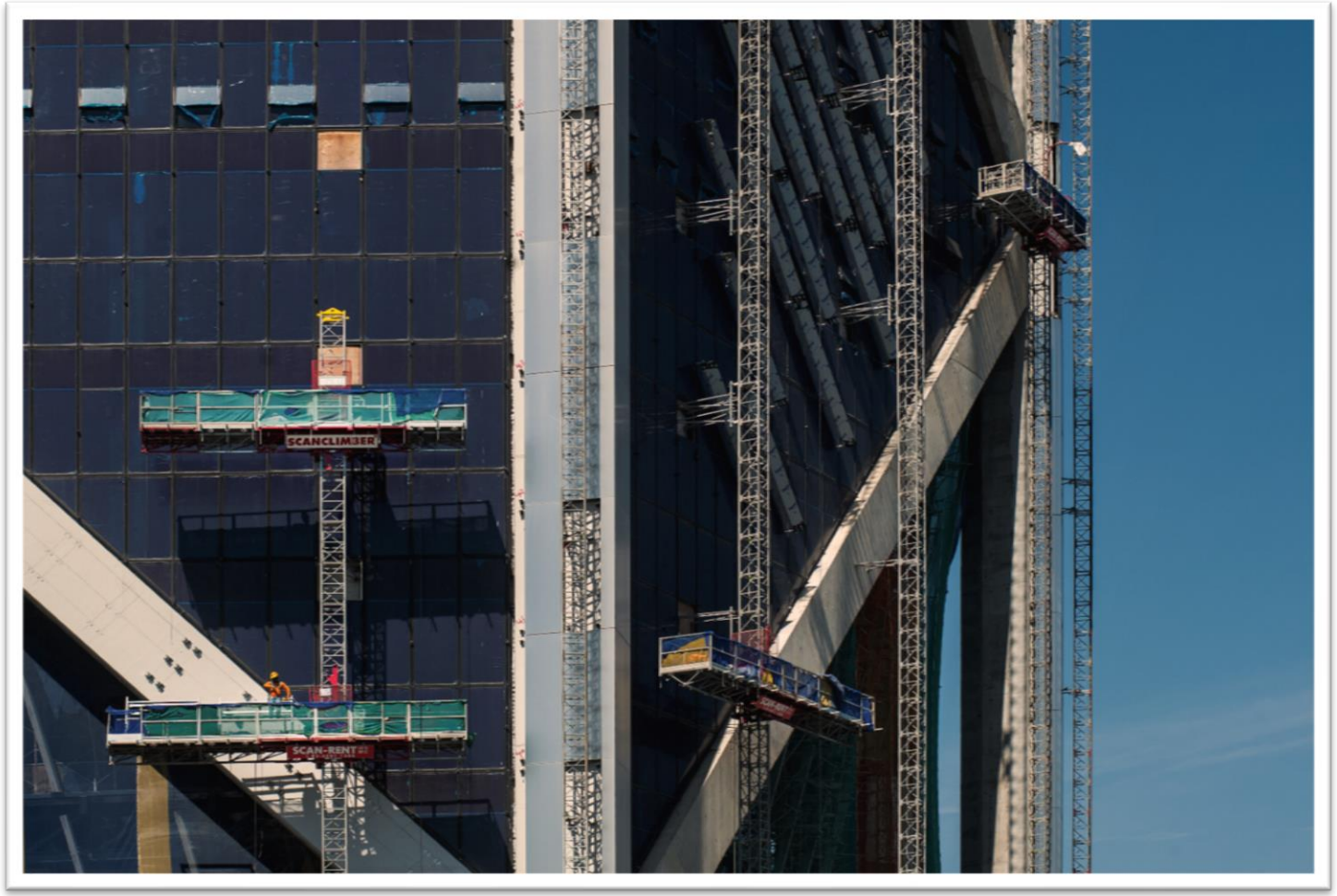
Mastclimber		Scaffolding	
Work Details	**Day**	**Work Details**	**Day**
Mobilization, inspection and storage	3	Mobilization, inspection and storage	3
Installation of Mastclimber up to 30 meters	3	Installation of Scaffolding up to 30 meters	12
Flare Shutdown	1	**Flare Shutdown**	1
Installation of Mastclimber up to 110 meters	3	Installation of Scaffolding up to 110 meters	35
Maintenance work by Contractors	10	Maintenance work by Contractors	10
Dismantling of machines to 30 meters	2	Dismantling of machines to 30 meters	25
Complete dismantling	1	Complete dismantling	12
Demobilization	1	Demobilization	3
Total Days to Complete Project	16	Total Days to Complete Project	71
Rental Cost = USD 500,000.00		**Rental Cost = USD 400,000.00**	
Operating income per day = USD 1.5 million **Operational Losses (16 days) = USD 24 million**		**Operating income per day = USD 1.5 Million** **Operational Losses (71 days) = USD 106.5 million**	

A Case Study of Flare Tower Inspection & Maintenance Project (Scanclimber Model SC4000 x 3 units – with 2 Crane Support)

PRODUCTIVITY

SCAN-RENT SDN BHD

- Improve work safety
- Potentiality to drive two platform on a single mast
- Unobstructed Access
- Potentiality to transport heavy cladding panels precisely to the installation position
- Faster travelling speed of the platforms



PROJECT REFERENCE – IB TOWER

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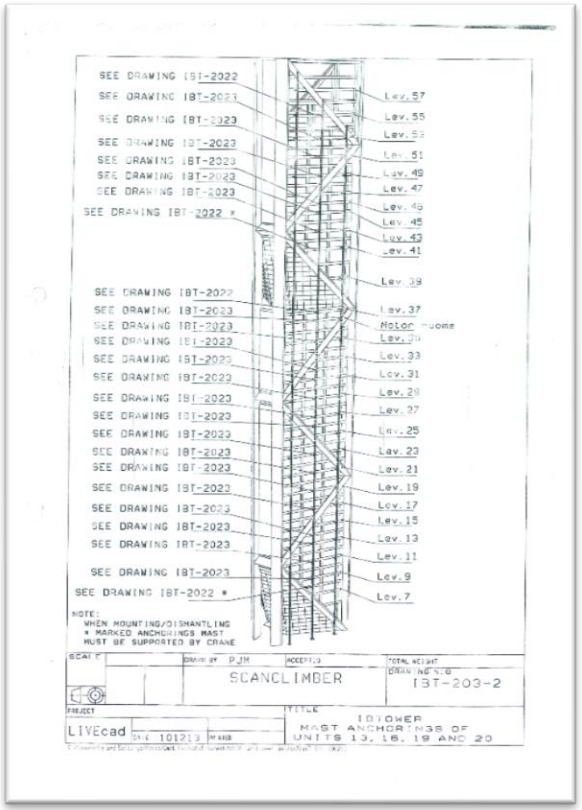
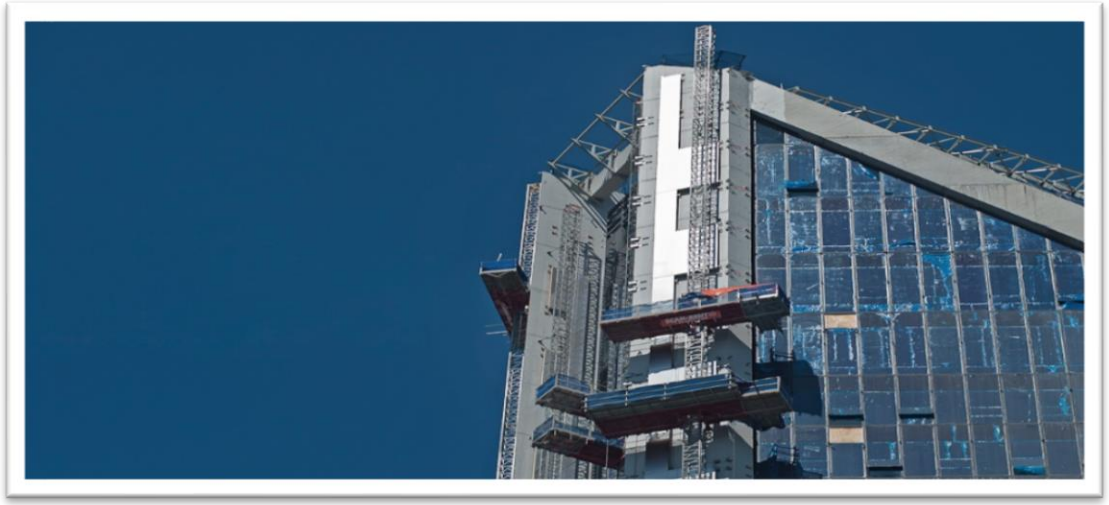
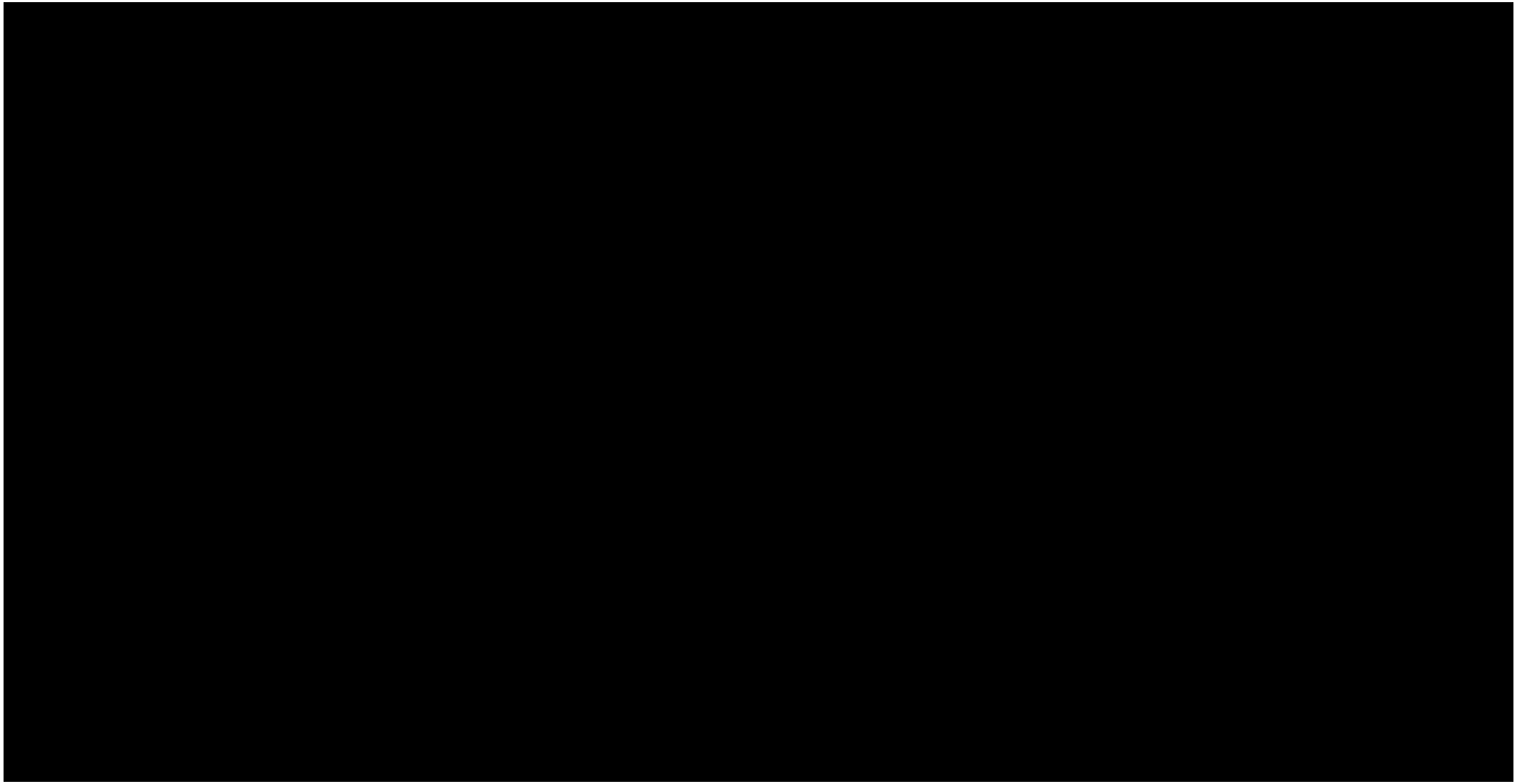




VIDEO-IB TOWER



SCAN-RENT SDN BHD

THANK YOU

VISIT US
Booth No: S5