

### MCWP FOR VERSATILITY, SAFETY AND PRODUCTIVITY

PRESENT BY



### Janne Haapalainen

General Manager, Scan-Rent Sdn Bhd





**Mast Climbing Work Platform & Gondola** 





**VISIT US** 

Booth No: S5





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





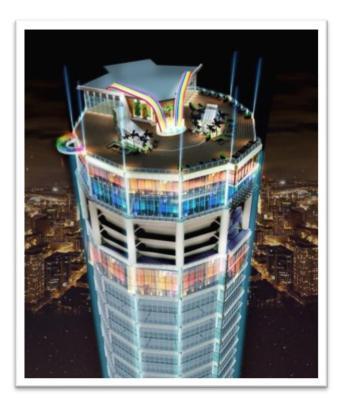
Mast Climbing Work Platform & Gondola



IPAF Asia Conference & Showcase 2018







Komtar, Penang







MATRADE









#### SCAN-RENT SDN BHD

#### ON GOING PROJECTS



Merdeka PNB 118



#### Bukit Bintang City Centre

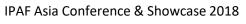






8 Conlay









#### ON GOING PROJECTS







Forest City

D' Twist







Mast Climbing Work Platform & Gondola



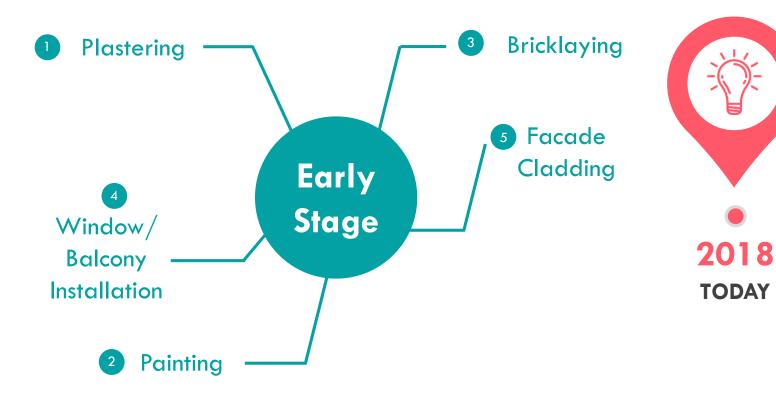


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#### INDUSTRIES RADICALLY TRANSFORMED



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













SC 4000



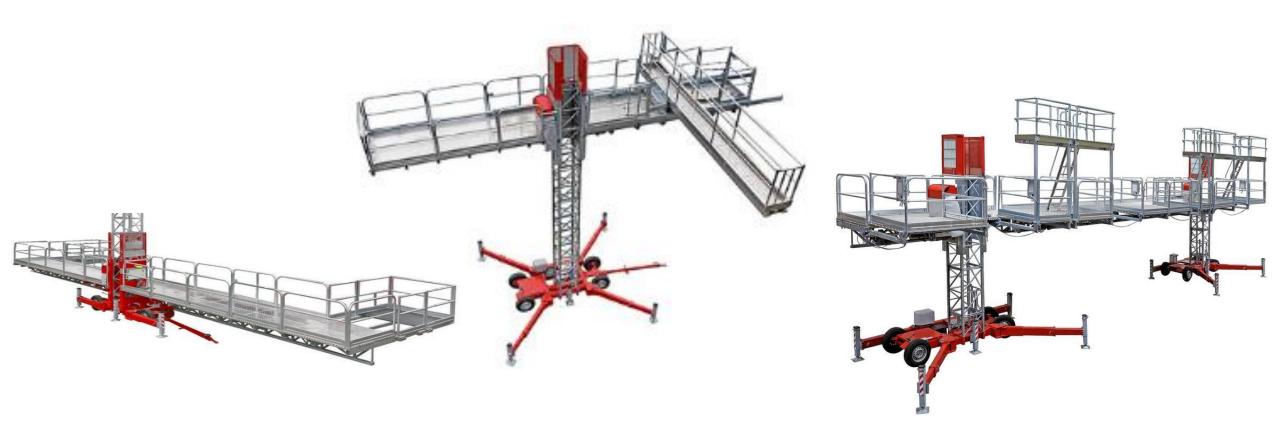






SC 6000





ALL REACH EXTENTION (ARE) / DOUBLE-DECKER PLATFORMS



















#### SNAKE PLATFORM

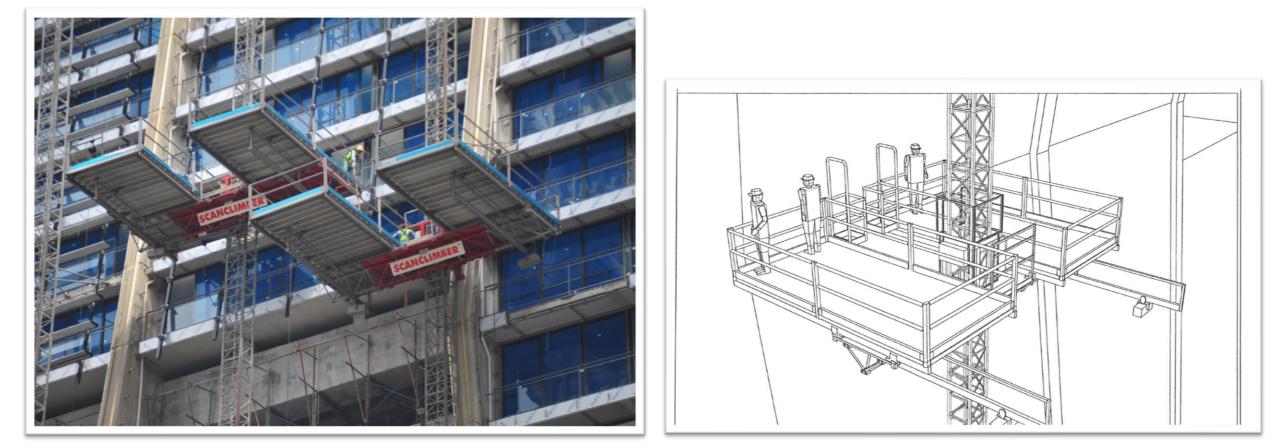










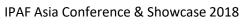


#### COUNTER WEIGHT PLATFORM



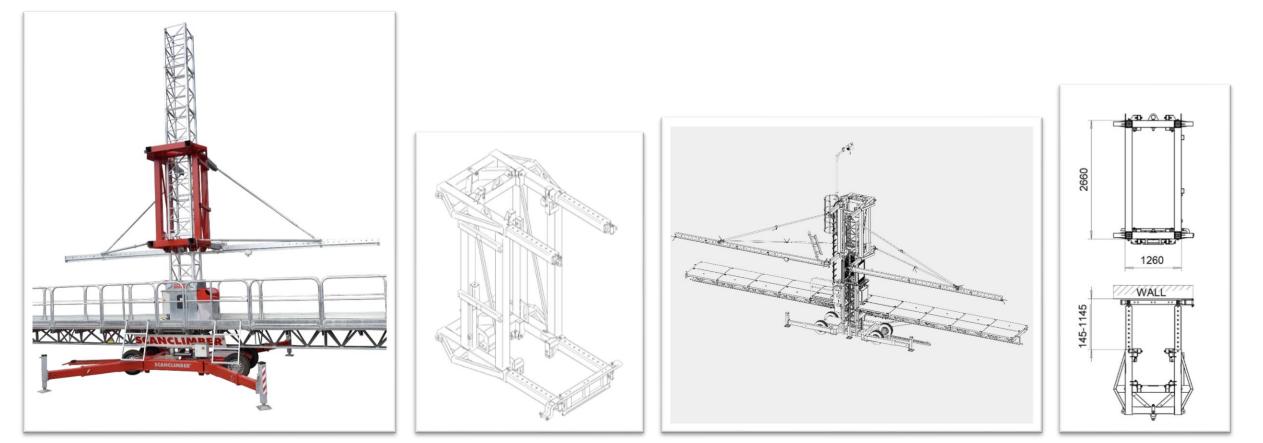












#### **GLIDE RAIL SYSTEM**











#### 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









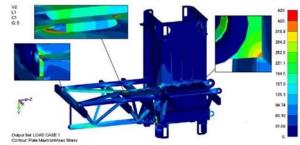






- Machines are designed and manufactured according to European standard
- Calculated, FEM-analyzed
- Machines are type approved and certified by Notified Bodies and in case by national authorities
- Scanclimber is certified by ISO9001

#### SCAN-RENT SDN BHD





#### **SCAN-RENT**





## 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



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









SCAN-RENT SDN BHD

## SAFETY TRAINING

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- 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

- 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











Mast Climbing Work Platform & Gondola



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#### SCAN-RENT SDN BHD

## SAFETY PROCEDURE

#### Department of Occupational Safety & Health Malaysia (DOSH)

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

| MINISTRY OF HUMAN RESOURCES<br>Area 13,48 & Biok Dk, Kompikes D<br>Pusat Pentadbinan Kerajaan Persekutuan<br>62539 PUTRJAVA<br>MALAYSIA<br>MALAYSIA  | Aras 1,2,4 & 5, Blok PA, Kompleks D<br>Pusat Pentadbiran Kerajaan Persekutuan<br>62530 PUTRAJAYA<br>MALAYSIA<br>Aras Parka Status Persekutuan<br>MALAYSIA   |
|--|---|
| Ruj. Tuan : SRSBJKKPM/004/2018<br>Ruj. Kami : JKKP IS 127/682/041<br>Tarikh : 17 MAY 2010  | Ruj. Tuan         :         SRSB/JKKPM/004/2018           Ruj. Kami         :         JKKP IS 127/789/4/041-2018           Tarikh         :         17 MAY 2018   |
| Pengarah<br>SCAY-RENT SDN BHD<br>C2-4F, Jalan Ampang Uiama 1/1<br>Off Jalan Ampang<br>65000 Ampang<br>Sclangor   | Pengurus<br>SCAN-RENT SDN BHD<br>C2-4F, Jalan Ampang Utama 1/1<br>Off Jalan Ampang<br>68000 Ampang, Selangor  |
| Tuan,  | Tuan,   |
| Pendaftaran Sebagai Orang Yang Bertanggungjawab Bagi Pemasangan, Penyenggaraan dan<br>Perombakan Mesin Angkat Mast Climbing Working Platform   | PEMBAHARUAN PENDAFTARAN SEBAGAI SYARIKAT PEMASANG, PENYENGGARA I<br>PEROMBAK MESIN ANGKAT MAST CLIMBING WORKING PLATFORM  |
| Nama       :       1. Encik Encik Ravi Kumar a/I Kuppusamy (No. K/P : \$11231-14-5485)         2. Encik Abdul Rahman Bin Azmi       (No. K/P : \$40727-14-6185)         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.   | No. Pendaftaran         : BT 64 / 041           Tempoh Kelulusan         : 22 Mei 2018 hingga 21 Mei 2021           Orang Yang Bertanggungjawab         :           I. Encik Nodin bin Ismail         (No. K/P : 670519-11-5051)           2. Encik Ahdul Rahman bin Armi         (No. K/P : 840727-14-6185)           3. Encik Ravi Kumar a/I Kuppusamy (No. K/P : 821129-03-5633)                         |
| 2. Sukacita dimaklumkan, dengan ini diperakukan bahawa penama-penama di atas layak menjadi.<br>Orang Yang Bertanggangjawab seperti yang dinyatakan dalam Seksyen 29A, Akta Klang Dau Jentera<br>1967 di mana seosorang itu boleh mennasang, merombak atau meyenggang inetura mesia angkaf atas<br>setelah memperolehi kebenaran bertulis daripada Ketua Pengarah Jabatan Keselamatan dan Kesihatan<br>Pekerjaan. Kelulusan ini adalah tertakluk kepada syárat-syarat berikut:-<br>i. Orang Yang Bertanggungjawab hendaklah membuat penyeliaan rapi ketika kerja-kerja<br>memasang, merombak dan menyenggara mesia angkat dijalankan bagi merunatikan aktiviti<br>tersebut mematuhi prosedur kawalan mutu dan spesifikasi yang ditetapkan oleh pembuat mesin<br>angkat berkenani; | Dengan segala hormatnya saya merujuk kepada permohonan tuan berhubung perkara di atas.<br>2. Sukacita dimaklumkan bahawa Jabatan meluluskan permohonan pembaharuan syarika<br>sebagai Syarika Pemasang, Penyenggara dan Perombak bugi skop berikut: –<br><i>i.</i> EMD04 – Mast Climbing Working Platform<br>3. Kelulusan pembaharuan pendaflaran ini adalah tertakluk kepada syarat-syarat sep-<br>bawah:- |
| ii. Orang Yang Bertanggungjawab perlu menjalankan pemeriksaan berkala ke atas setiap mesin<br>angkat yang beroperasi di bawah seliasmiya sekurang-kurangnya sekali dalam tempoh masa<br>seminggu. Sebarang kerosakan atau kecaentan pada struktur utama atau komponen mesin<br>angkat tersebut, hendaklah dilaporkan dengan kadar segarta ke piabat Jabatan Keselamatan<br>dan Kesihatan Pekerjaan negeri di mana mesin angkat tersebut digunakan;   | <ul> <li>a) Jabatan ini hendaklah diberitahu sekiranya ada sebarang pertukaran, tambahar<br/>kakitangan, jentera dan alamat yang sedia ada. Jabatan ini berhak untuk memba<br/>pendaflaran ini jika pihak tuan gagal untuk memaklumkan dengan segera. Sek<br/>didapati semua Orang. Yang Bertanggungjawab meninggalkan syarikat ini,<br/>kebenaran ini dengan sendirinya terbatal;</li> </ul>               |
| iii. Orang Yang Bertanggungjawab hendaklah merekodkan semua hasil dapatan semasa<br>pemerikaan yang dijalankan terhadap kerja-kerja permasangan, penyenggaraan dan<br>perombakan mesin angkat ke dalam senarai seranak yang bertemaan. Rekod lengkap<br>pemerikaaan hendaklah disimpan dengan batku untuk semakan Jabatan;   | b) Kerja-kerja menasang, merombak dan menyenggan mesin angkat mesilah di<br>menurut prosedur dan spesifikasi pembuat mesin angkat berkenaan yang diluh<br>oleh Jabatan ini. Kebenaran dari Pengarah Jabatan Keselamatan dan Kesihatar<br>Pekerjaan Negeri yang mengawal kawasan berkenaan hendaklah diperolehi se<br>kerja-kerja pernasangan dan perombalaan mesia angkat berkenaan dijalankar,             |
| shuiqhiscaa-ren/2018 1/2   | muka surat 1 darip  |
|  |   |
|  |   |





Mast Climbing Work



IPAF Asia Conference & Showcase 2018



## SAFETY PROCEDURE

#### **Department of Occupational Safety & Health Malaysia (DOSH)**

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

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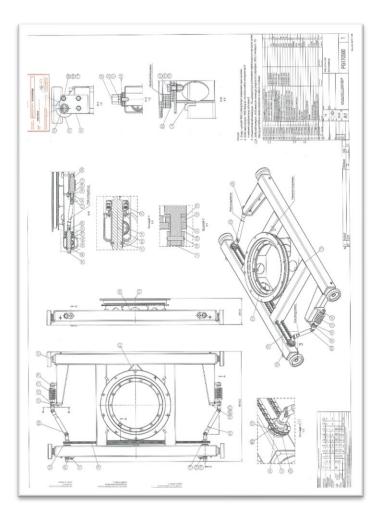
Platform & Gondola

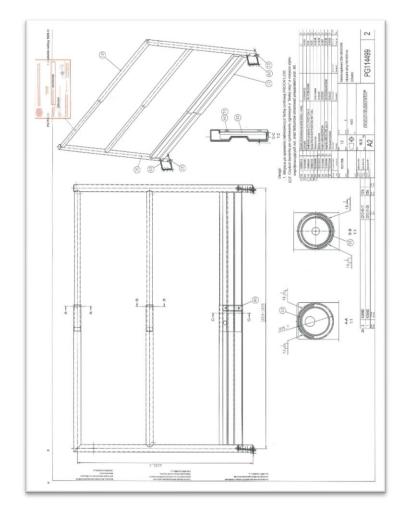


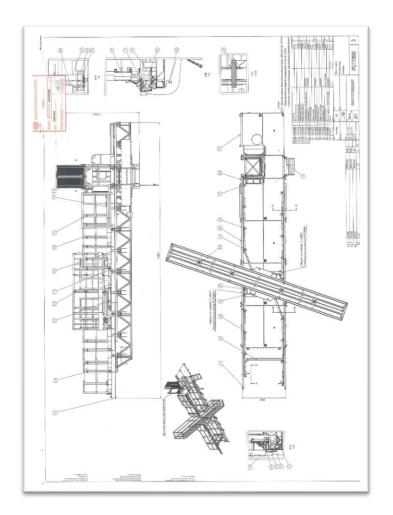
SCAN-REN



### ALL REACH EXTENSION (ARE) DESIGN APPROVAL









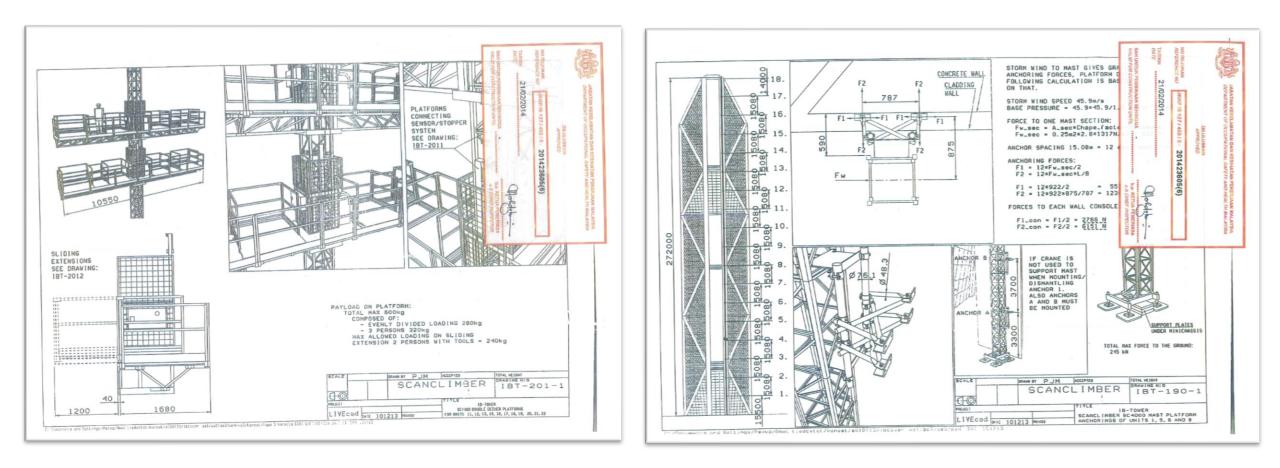






#### SCAN-RENT SDN BHD

## DOUBLE-DECKER DESIGN APPROVAL





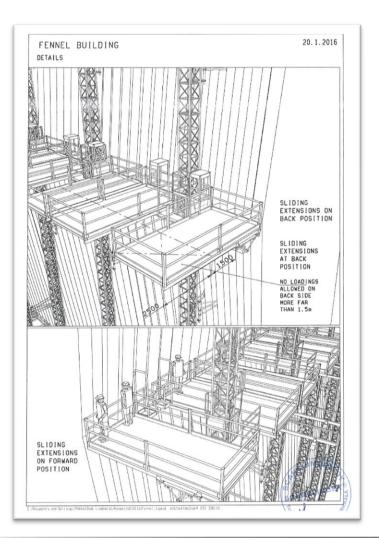


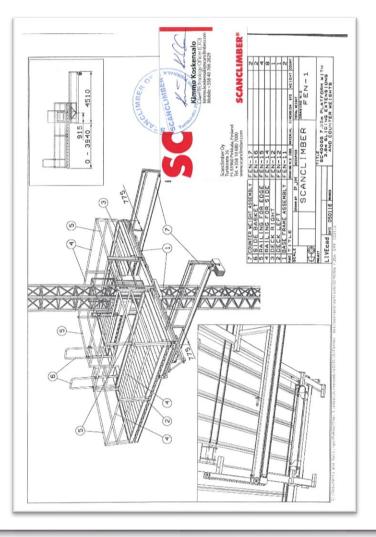


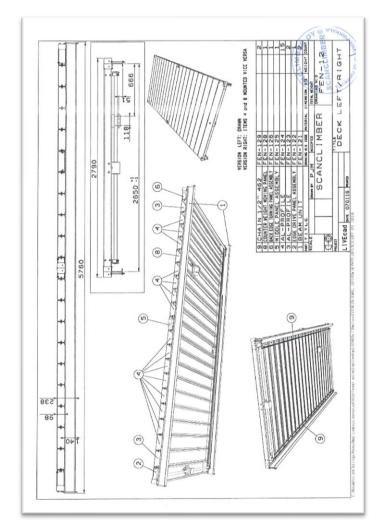




## SLIDING PLATFORM DESIGN APPROVAL



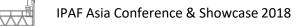










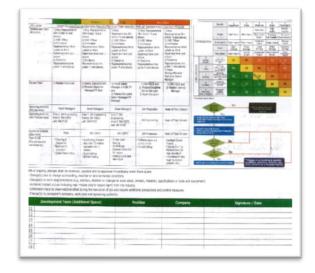


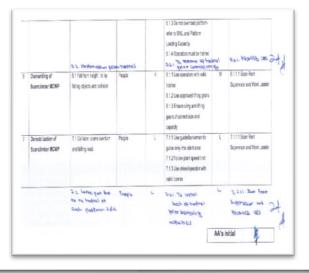
#### SCAN-RENT SDN BHD

#### SAMPLE JOB HAZARD ANALYSIS (JHA)

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| 15m sug ches.                                      | MANTER :                        | MRCSR.          | h                    | Phila.            |

|   |  | 3.2 Palling tool, collision and<br>fail from neight when using<br>mobile-counts, rig and holek<br>mask soctions to chasels and<br>ball          | PeoplePault | v | 32.1 Cantral Mang<br>32.2 Lise competent signalman<br>entrigger<br>32.3 Bancade ifting area and<br>put warning signage's   | t  | 3.211 Scan Ret<br>Scannior and Work Loodar                         |
|---|--|---|-------------|---|--|----|--|
|   |  | 3.3 Fail from traget, coloran 4<br>10 by failing objects when drive<br>partnets 32 to 14 andron<br>dowlines fix another and release<br>silling. | PendsPoset  | н | 3.3.1 Use sofity homecoes and<br>exactly horize<br>3.3.2 More sure there are no<br>observation to insurement of<br>pletters<br>3.3.3 Derivate welk after and<br>do not abant below surgerided<br>fear. | v  | 1.3.1.1 Scan Ret<br>Supervisor and Work Loocian                    |
|   |  | 34 full hen height, soflawn 8<br>hothy felling objects when<br>repealed until repurso height<br>actieved.                                       | Page        | 2 | 3.4.1 Gas safety hornesses and<br>excars toxics<br>3.4.2 Data sure there are no<br>obstruction to inversent of<br>pattors<br>3.4.1 Barttook work area one<br>co-roti stand below suspended<br>load     | A  | 3.4.1.1 Starr Reit<br>Sugerniser and Work Leader                   |
| 4 | Perfors JRCP inspection<br>and tasks           | 4.1 Pail from heapst, shi by<br>Swiling objects and solition  | People      |   | 4.1.1. Use safety termines and<br>secure holia<br>4.1.2 Make sure there are no<br>obstruction to movement of<br>puttion  | N. | 4.1.1.1 Scan Rent<br>Busoniser and Work Lauder                     |
| 8 | Using Standarder<br>MCNP for access and<br>ERP | 3.1 Fall Item Neight, h1 by<br>Telling objects wet carliaten  | Paszis      | н | 5.1.1 Use safety harresses and<br>secure hooks<br>5.1.2 Wave sure there are no<br>checkular to reveare a of<br>plattere.   | u  | 5.1.1.5cm/Ret<br>Supervisor and Work Leader<br>5.1.1.2 PP0/058 C15 |
|   |  |   |             |   |  |    | )  |





|                     | PETRONAS  | JOB HAZAR DAL  |                |                                  |   | JHA Serial<br>Number  | 201/1/108   |
|---------------------|---|--|----------------|----------------------------------|---|-----------------------|---|
| Jan T<br>Skry<br>No | the Constrainty Installatio   | no, Errectives, Operation an<br>Potosial Page un 6<br>Consecuentin                                     | ongia or samed | Scan Cliest<br>Failed<br>Failers | ter MCWP at Unit 32 PP<br>Same and a Reasony<br>Reasons   | Pero<br>San<br>Bint-1 | Kanaliersenikk dess   |
| T                   | Vobilation of<br>ScanCliniter MCMP and<br>parts using lony trailer<br>and mobile cransifondit | 11 Collaion and failing toat<br>due to clarke seerbarn   | Auset          | L                                | 1.1.1 Lee guidelberkonten to<br>guide leny into plant area<br>1.1.2 Folker plant speed limit<br>1.1.3 Lee drivertperator with<br>walkt foanse     |                       | Cr.1.1 Base Rent<br>Supervisor and Wolk Lease<br>1,1.1.2 PP(e)SS CES  |
|                     |   | 1.2 Trap trigets at fast in<br>ground properation, bulling of<br>most sections and excluding<br>parts. | Paqja          | L.                               | 123 Like proper gloves  |                       | 1211 Base April<br>Supervisor and Work Last                           |
|                     |   | 13 Failing lead activor when<br>holding the main chaols lots<br>position                               | Pocoskrikaset  | ×                                | 1.3.1 Use operators with cald<br>license<br>1.3.2 Use approved (Ring pow<br>1.3.3 Driven aling and (Ring<br>geens of correct size and<br>coperity | •                     | 13.1.1 Scan Rent<br>Supervisor and Work Lies                          |
| 2                   | Ezergize  | 2.1 Electic aluco  | Projek         |                                  | 2.1.1 texter suppy<br>2.1.2 Assign only computent<br>and experience personnel to<br>perform task  | L                     | 2.1.1.1 Scan Rent<br>Supervisor and Work Lease<br>2.1.1.2 PR(x)SD GDS |
| 1                   | Installation of<br>Buancliniter NOWP  | 3.1 Trap fingers when pre-<br>ensemble mast acctione to<br>neight of 1 <sup>o</sup> amber position     | People         |                                  | 3.1.1 Use proper tax's and gives  | L                     | 3.1.1.1 Soan-Next<br>Supervisor and Work Loss                         |



#### **SCAN-RENT**







#### SAMPLE METHOD OF STATEMENT (MOS)

#### SCAN-RENT SDN BHD

| NCAN 4011 STOR BID<br>E.B. HT STOCKEDS NOT BID<br>Rend of Saccificht NCW, Mod SC 8006 for<br>Access, Material Transfer and ERF for the proposed Maintenance Work On A-6301 Flate FDH<br>Plant,MTBE(Mdaysia)Sdn Bid 20197A |                     | P, Model SC4000s for<br>d ERP for the proposed Main  | Model SC4006 for Renatal of Society Across Materia<br>ERP for the proposed Maintenance Work On A-6101 Hare ,PDH Plant.MTBEON<br>d 2018TA |  |   | RETURE EXECUTION STOR<br>Renal of Socialitaber MCNP, Model SCROBA for<br>Across, Material Tausifer and ERP for the proposed Maintenance Work On A-8811 Hare #DH<br>Plant.MTBEIMalaysia/Sdn Bhd 2018TA                              |  |  | In THE RESOLUCES SING<br>Benkl of Scandinber MCWP, Model SC400h for<br>Voress, Material Transfer and EBP for the proposed Maintenance Work On A-6681 Hare JPDH<br>Text.ATBIOMAsystandia bia 20167A |                                     |  |   |   |  |   |
|---|---------------------|--|--|--|---|--|--|--|--|-------------------------------------|--|---|---|--|---|
|   |                     | - Ar   |  |  |   |  |  | Title Method of Fratemate for SCANCLIMBE   | II. Massi Classifing, Works P  | Section 1                           | *  |   | Talar Method of Statement for SCANCLIMB   | Ell Mast Climbrog Work Platform  |   |
| Title: Method of Statement for  | SCANCLIMBER Mast Cl | edderg Work Platform   |  | Title: Method of Statement for St                          | CANCLIMBER Mast Climbing W  | lock Platform  |  | 4.0 LIST OF EQUIPMENT AN   | D MACHINERIES  |                                     |  |   | Only qualified perso     Platform   | onnel is allowed to install, erect and operate the Work.   |   |
|   |                     |  |  |  |   |  |  | ITEM DESCRIPTION 1 Basic Unit Scandinber   | 50.4000  | QTY<br>Inos                         | REMARK   |   |   | on equipment is available prior to commencement of   | e |
|   |                     |  |  |  |   |  |  | 2 Mast sections  |  | 12000                               |  |   | exection and used a   | ppropriately<br>i parts should be delivered to the approved lay down   |   |
|   |                     |  |  |  |   |  |  | Anchoring sets     Platform extension tube   | 09   | 10sets<br>6mos                      |  |   | area inside PDH Pla   | nt.  |   |
|   | TABLE OF C          | ONTENTS  |  |  |   |  |  | S locoming and overbany     S Counter weight (Test L   |  | 200m                                |  |   | 40 INSTALLATION AND EJECTIO   | ON PROCEDURE   |   |
| ITEM  | DESCRIPTION         |  |  | METHOD OF STATEMENT  | FOR SCANCI IMBER  |  |  | 7 Erection and Installation  |  | Isets                               |  |   | 6.1 Mobilization of Scanclimber and parts to the approved lay down area beside the  |  |   |
| TIES  | DESCRIPTION         |  |  |  |   |  |  |  |  |                                     |  |   | Flare Tower<br>6.2 Setting out for Scanclimber esact location (refer sketch of plot plan). Checking   |  |   |
| 1.0   | Introduction        | troduction 1.0 INTRO   |  | 1.0 INTRODUCTION   |   |  |  |  |  | Ground condition and layir          |  | ng of steel plates for outrigger leg.                                   |   |  |   |
| 2.0   | Scope of Work       |  |  |  |   | o ensure any Scanclimber installation  |  | 5.0 SCANCLIMBER INSTALLATE   | MBER INSTALLATION AND ERECTION REQUIREMENT   |                                     | 6.3 Erection and anchoring<br>• Pre-ensemble must actions at ground level into 9 sections (refer to Scarclindber<br>Drawings for |   |   |  |   |
| 3.0   | Safety Precautio    | 'n   |  | at area of Flare A-6<br>and maintained for s               | 101 is properly designed, ero<br>afe use.   | cted, inspected, approved, operated  |  | The following items should be e<br>erection activities of Scarelimber.   | considered and compli-   | ed with duri                        | ing installation and   |   | Enorghis of each sections     Install Mast Plates at correct position and orientation for the 14 Anchor     Fix and both Mast Top Cap to top and of section 10em(th 20 meter)   |  |   |
| 4.0   |                     | warkion MCDP model SCUDE<br>er Inspection Criteria Support the Flaw Rate<br>or State |  |  |   |  |  | 5.1 Condition of the maching   |  |                                     |  |   | <ul> <li>Rig and hoist 1<sup>st</sup> length of the ma</li> </ul>   | ast to chassis using mobile crane  |   |
| 5.0   |                     |  |  |  |   |  |  | and a second | FORM) only inspected unit with valid PMA should be insta<br>tion, make sure surface free of obstruction, leveled and   |                                     | 1  | Align and checks     Drive up platform                                  | <ul> <li>Align and check verticality and i</li> <li>Drive up platform to the 1<sup>st</sup> and</li> </ul>  | t joints with the crane still supporting the mast<br>match to the angle of the flare structure.<br>sor point, check verticality and alignment of |   |
| 7.0   | Work Preparatic     |  |  |  | 000 erection, dismantle and   | pply for rental one unit Scanclimber<br>operate the Scanclimber MCWP to  |  | compacted on hard surface such as steel o<br>sufficient strength and thickness to support b                    |  |                                     | die sure that it has   |   | thefeared imber against the Flare Structure. Fix anchor and tightened all bolts<br>• Drive platform further up to release crane, by unbolting the Top Cap.<br>6.4Drive down platform to ground level, check movement of platforms up and down |  |   |
| 8.0   |                     |  |  |  | upport the Flare Maintenance and related works  |  |  | 5.3 Working platform.<br>(Refer to attachment for  | elations dimensions as   | ul loadine Cr                       | apacity).  |   | and stability.<br>During the installation and erection platform length in use will be 4.2meter  |  |   |
| 9.0   | Maintenance         |  |  |  | ECAUTIONS<br>all be observed and followed strictly in accordance with approved JSA.<br>1.2 in Scanclimber Safety Regulation (attachment No T) |  | 3.4 Scandlinder Safety Requirements  |  |  |                                     |  |   | 6.4 Repeat sleps to complete erection of Scandimber UP to 150 meter.  |  |   |
| 10.0  | Attachment          |  |  |  |   |  |  | (Refer attached SAFETY<br>5.5 General guideline for Ins  |  |                                     |  |   | 6.5 DOSH COMPETENT PERSO  | IN from SRSB will conduct own test rures and prepare   |   |
|   |                     |  |  |  |   |  |  |  |  |                                     |  |   |   |  |   |
|   |                     |  | 1  |  |   |  |  |  |  |                                     |  |   |   |  |   |
|   |                     | ID HISE RESOLUCES SEV HID<br>Lental of Scanclinder MCWP, Model SC4000s for   |  |  | RE-HST RESOLUCIS SDN BHD  | INSTRESOURCES SED BHD<br>retail of Scancimber MCWP, Model SC4000s for  |  | SCAN-RENT SDN BHD  |  |                                     |  |   |   |  |   |
|   |                     | Access, Material Transfer and ERP for the pr<br>Plant,MTBE(Malaysia)5 dn Bhd 2018TA  | oposed Maintenan   | ce Work On A-6101 Flare ,PDH                               |   | Access, Material Transfer and ERP  | entat of Scancimber MCWP, Model SC40008 for<br>ccess, Material Transfer and ERP for the proposed Maintenance Work On A-6101 Flare ,PDH<br>ant,MTBEfMalaysialSdn Bhd 2018TA |  | LE: HSE RESOURCES SDN BHD  |                                     |  | 100000 /  |   |  |   |
|   |                     |  |  |  |   |  |  |  |  |                                     | l of Scanclimber MCWP, Model S   | el SC4000s for<br>or the proposed Maintenance Work On A-6101 Flare ,PDH |   |  |   |
|   |                     | Tile: Method of Nakower for SCANCLIMIER More Climbrag Work Plations  |  |  | Title: Method of Namesett he SCANCLINEER Mast Cliniting Work Plathers   |  | Access, Material Transfer and ERP fo<br>Plant,MTBE(Malaysia)Sdn Bhd 2018   |  |  | aintenance Work On A-6101 Hare (PDH |  |   |   |  |   |
|   |                     | 6.6 Conduct Inspection and Load Test<br>use the Scanclimber MCWP to support  | for the unit with JK<br>t Flare Refurbishme  | GKP Inspector and proceed to<br>ent Work.                  |   | 7.6 Prior to installation and erection Scandinber Technical Supervisor shall<br>conduct own inspection on condition of machine, parts and required<br>equirements and look, (Refer exclose from and usily impection form attached) |  |  |  |                                     |  |   |   |  |   |
|   |                     | 1.0 WORK PREPARATION<br>Scan-Rent Sdn Bbd together with Hi<br>site visit to verify the followings:   | ISB and MTBE Rep   | presentative will conduct joint                            |   |  |  |  | File: Method of Statement for SCANCLIMEER Mast Climbing Work Platform  |                                     |  |   |   |  |   |
|   |                     | 7.1 Safe Location  | k area where Sca   | inclimber will be install and                              |   | 8.0 SCANCLIMBER INSPECTION CRITERIA  |  |  |  |                                     |  |   |   |  |   |
|   |                     | operated.  No obstruction to restrict  |  |  |   | 8.1 Inspection   |  |  |  |                                     |  |   |   |  |   |
|   |                     | <ul> <li>Adequate space for me</li> </ul>  |  | e work platform<br>latform during shifting and             |   | Scanclimber and its     and Mechanical Dep   |  | s should be inspected by MTBE Electrical<br>into plant.  |  |                                     |  |   |   |  |   |
|   |                     | operation.  To ensure that Scanclimb   | e does not obstruct  | existing emential services                                 |   | All main component   | ts including whee  | d chassis, mast sections, platforms, supply  |  |                                     |  |   |   |  |   |
|   |                     | Within the Plant area such   | as Fire Hydrant, Se  | iervices Manholes, fire exita                              |   | and overhang cables operations.  | s should be inspec   | cted and free from defects prior to  |  |                                     |  |   |   |  |   |
|   |                     | <ul> <li>Cage ladders and roads<br/>Personnel.</li> </ul>  | without prior app  | moval from authorized MTBE                                 |   |  | sd pinion, safety b  | brake, lifting and drive motor should be   |  |                                     |  |   |   |  |   |
|   |                     |  |  | install close to instruments or                            |   | checked and tested (   |  | accord (   |  | 10.0                                | ATTACHMENTS  |   |   |  |   |
|   |                     | other sensitive equipment <ul> <li>Stress imposed on the equipment</li> </ul>  | sipment and to ensu  | lirect impact or weight<br>ure no climbing on all existing |   |  |  | sle and cable glands, leveling device,<br>nd platform electrical box,  |  |                                     |  |   |   |  |   |
|   |                     | facility or instrument equ<br>7.2 Minimum obstruction to exist   |  | ladders or platform  |   | 9.0 MAINTENANCE  |  |  |  |                                     | 1. Safety Regulation   |   |   |  |   |
|   |                     | 7.3 Most efficient use of existing l   |  |  |   | Daily and periodic maintena  | ance will be carrie  | ed out to ensure smooth and safe operation   |  |                                     | 2. Frequent Inspection Form<br>3. Platform Dimension and Los   | ding Canadia  |   |  |   |
|   |                     | 7.4 Required platforms area and  | slatform loads   |  |   | of Scandimber (refer item 2.   | 3 of the Operation   | n Manual).   |  | 1                                   | <ol> <li>Platform Dimension and Los</li> <li>A Scandimbar Cartificata</li> </ol>   | ung capacity  |   |  |   |





7.0 SAFETY PRECAUTION

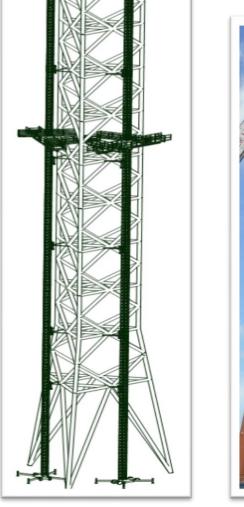




### PROJECT REFERENCE – FLARE TOWER, MELAKA









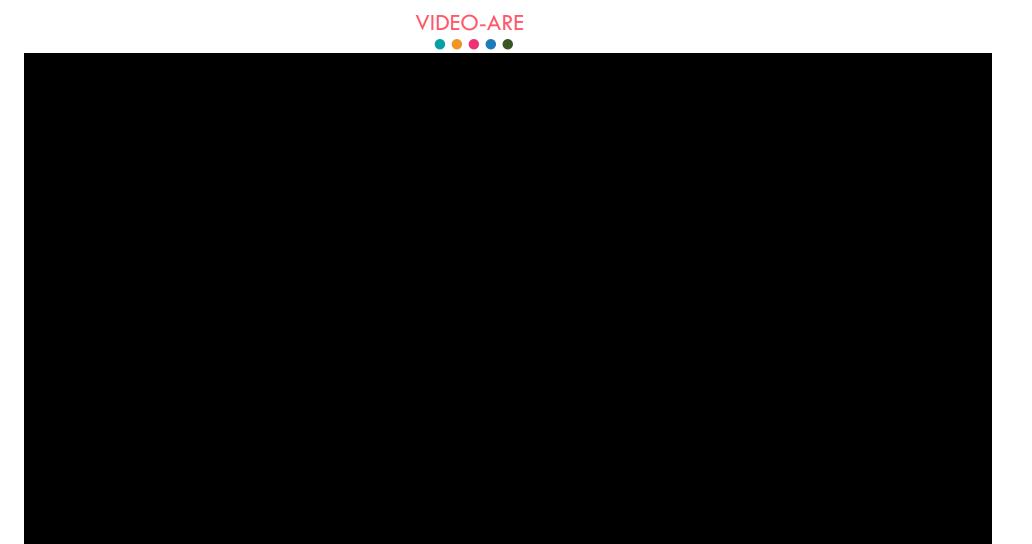


#### **SCAN-RENT**





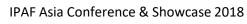














## SCAN-RENT BAD MCWP vs SCAFFOLDING



Which one looks <u>faster</u> to assemble and start to work?

Which one looks more <u>effective</u> from logistics point of view?

Which one looks <u>easier</u> to transport people and material?









## MCWP vs SCAFFOLDING SCAN-RENT 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<br>Operational Losses (16 days) = USD 24 million |     | Operating income per day= USD 1.5 MillionOperational 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



Improve work safety



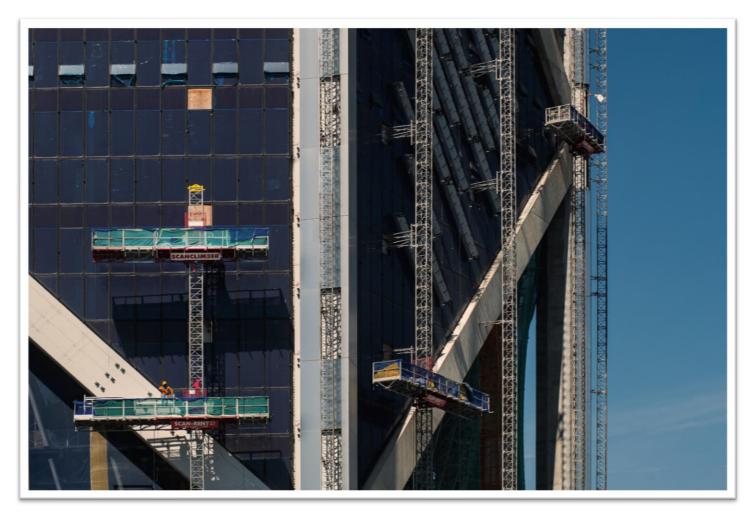
Potentiality to drive two platform on a single mast

**Unobstructed Access** 

Potentiality to transport heavy cladding panels precisely to the installation position



Faster travelling speed of the platforms





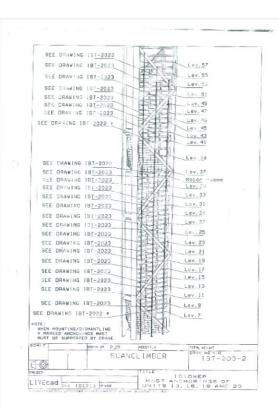






#### SCAN-RENT SDN BHD

#### PROJECT REFERENCE – IB TOWER













| _ | VIDEO-IB TOWER | •••• |  |  |
|---|----------------|------|--|--|
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|   |                |      |  |  |

#### **SCAN-RENT** lift smart climb safe

SCAN-RENT SDN BHD







# THANK YOU









