OCP Ready Colo Facility Site Assessment	*GLOBAL SWITCH AMSTERDAM EAST*		
Self Assessment Status:	COMPLETE-MEETS REQUIREMENTS		
Data Center Location Name	AMSTERDAM EAST - STAGE 1		
Data Center Location Address	Johann Huisingalaan 759, 1066VH AMSTERDAM		
Site Description: IT Technical Space (White Space) Area	Technical Suites A01, A02, B01, B02		
Site Description: Critical IT Power	2000kW per Suite (8MW Total for Stage 1) supported from Static UPS and standby generation. Cooling to be delivered from chiller assist cooling and fan walls to achieve an annualised PUE <1.2. Facility to be constructed over five stages to give 32MW IT.		
Site Description: Network Provider Availability	Global Switch Amsterdam is one of the most connected hubs in the country and currently hosts a multitude of global and national telecommunications and cloud providers, AMS-IX and NL-IX, as well as a wide range of internet services providers. With diverse fibre connectivity on the campus, customers of Amsterdam East will be able to access this connectivity rich environment and benefit from a wide choice of cloud and network providers as well as direct access to the global IP backbone		
Site Description: Facility Features	New Build Data Centre, power density ~ 3000W/m2, annualised PUE < 1.2. Communal heat export. Technical suites supported from Static UPS and standby generation. Cooling to be delivered from chiller assist cooling and fan walls.		
Site Description: Other Services	The new building will sit on the existing campus adjoining Amsterdam West		
Date Original Assessment is Completed	07/29/2020		
Re-Assessment Date:			
REQUIREMENTS - Attribute (Must have an Optimum or Acceptable result)	**Parameter**	**Result**	**Notes**
ACCESS			
Building Access	1. Loading dock with lift or leveler	**Optimum**	External Loading bay is provided with two scissor lift devices to offload crated racks from the delivery vehicle truck into the unloading area. The crates can then be transported 'threshold free' into the uncrating space.
Delivery pathway, Loading dock to Goods in	1. ≥2.7m (108in) H x ≥2.4m (96in) W x ≥2.4m (96in) D unobstructed access and threshold free	**Optimum**	Access through the loading area to the uncrating area is designed for the wooden crate to be transported on a pallet truck; the loading bay door has a clear dimension of 2.4m wide x 3m high.
Delivery pathway, Goods in to White space	1. ≥2.4m (96in) H x ≥1.8m (72in) W unobstructed access and threshold free	**Optimum**	Access from the uncrating area to the technical suites (data halls) is 'threshold free' so the rack can be transported fully populated on its casters into the suites, all access door are sized for 3m high and 1.8 m wide.
Corridor floor rolling load	1. ≥680kg (1500lb) (6.67kN)	**Optimum**	The floor throughout the new building comprises in-situ cast composite concrete floor slab. Floor provides smooth movement of 1,500kg rack on four caster wheels and is designed for a uniform load of 15kN/m2.
Unboxing/pre-staging/storage area floor uniform load	1. ≥1221kg/m2 (250lb/ft2) (11.97kN/m2)	**Optimum**	Raised floor in the uncrating area - 12.0kN/m²
Unboxing/pre-staging/storage area floor concentrated load	2. ≥459kg (1012lb) (4.5kN) (Notes Required)	**Acceptable**	Point load for raised floor (25mm x 25mm) is 4.5KN. 4 -point load 25 x 25mm = 11kN; however four wheels of a 600mm x 1000mm rack will not fall onto a 600mm x 600mm floor tile. Floor tiles are tested in accordance with PSA MOB PF2 PS/SPU for raised access floors. All working loads perform to a 3x safety factor and to a safety factor of 2 for 11kN load.
RAMPS			
Gradient	1. Not Applicable - No Ramps Required	**Optimum**	No ramps installed within the facility
Width	1. Not Applicable - No Ramps Required	**Optimum**	No ramps installed within the facility
Landing area	1. Not Applicable - No Ramps Required	**Optimum**	No ramps installed within the facility
Railings	1. Not Applicable - No Railings Required	**Optimum**	No ramps installed within the facility
LIFTS / ELEVATORS			
Weight loading	1. Not Applicable - No Lift/Elevator Required	**Optimum**	A 4000kg Goods Lift is provided in the loading bay with a speed of 0.5 m/s
Door height	1. ≥2.4m (96in) Lift /Elevator door opening height (not internal cabin)	**Optimum**	Industrial type goods lift with 2500mm clear door opening height and 2600mm car internal clear height
Width	1. ≥1.5m (60in) Unobstructed door opening width	**Optimum**	1800mm wide unobstructed door opening
Depth	1. ≥1.5m (60in) Unobstructed cabin depth	**Optimum**	Lift car cabin - 2100mm (width) x 3400mm (deep) x 2600mm (height internal)
IT TECHNICAL SPACE (WHITE SPACE)			
Floor rolling load	1. ≥680kg (1500lb) (6.67kN)	**Optimum**	Technical Suites (data halls) floors comprise in-situ cast composite concrete floor slab. Floor provides smooth movement of 1,500kg rack on four caster wheels.
Floor uniform load	1. ≥1221kg/m2 (250lb/ft2) (11.97kN/m2)	**Optimum**	15.0kN/m² (1500 kg/m²)
Floor concentrated load	1. ≥680kg (1500lb) (6.67kN)	**Optimum**	In-situ cast composite concrete floor slab with a concentrated limit of 20kN (25mm x 25mm).
Finished floor to ceiling height	2. ≥3.1m (124in)	**Acceptable**	3900 mm clear height from top level of finished floor slab to the underside of the suspended ceiling.
Access floor clearance	1. Not Applicable - No Access Floor	**Optimum**	Basis of Design is no raised floor. If a raised floor is required by the Customer, it can be accomodated, but a ramp may be needed to access the Customer Whitespace.
ELECTRICAL			
Number of independent circuits to the rack	1. 2N (A+B)	**Optimum**	N+N power distribution to the rack from a Distributed Redundant UPS topology.

Maximum circuit capacity	1. 3ϕ 32A/230V	**Optimum**	Single and three phase tap off boxes can be provided, fed from an N+N overhead busbar solution. The rating of the tap-off boxes will be customer determined with multiple 16A or 32A outlets.
Circuit voltage	1. 400/230 VAC nominal	**Optimum**	Nominal 230v a.c. Single phase, 400 V a.c. 3 phase.
Circuit frequency	1. 47-63 Hz	**Optimum**	Nominal 50Hz, =/- 0.1 Hz
Power receptacle / WIP Type	1. IEC60309 460R9W	**Optimum**	Customer preference can be accomodated
Circuit receptacle location	1. Overhead	**Optimum**	Overhead via busbar. Busbar can be customer supplied or vendor nominated
Upstream UPS options	1. UPS and non UPS feeds available	**Optimum**	Basis of design is UPS backed IT power supply via centralised UPS with battery back up; however if the customer requires non UPS backed supplies this can be discussed.
Rack-based batteries permitted	1. Allowed	**Optimum**	Local battery storage in the IT racks is permitted but their use needs to be declared for the purposes of insurance.
Generator load acceptance time	1. <60 seconds	**Optimum**	Generator Load Acceptance Time is 35 - 45 seconds
COOLING			
Rack airflow direction	1. Front to Back	**Optimum**	Front to back - flooded room cooling with hot aisle cooling
Air containment methods	1. Hot aisle containment or rack chimney	**Optimum**	Hot aisle containment is the basis of the system design.
Maximum rack density	1. ≥12kw	**Optimum**	> 12kW. Flooded room cooling so lesser constraints on rack load
Minimum cold aisle width	1. ≥1500mm (60in)	**Optimum**	A cold aisle width of 1500mm is achievable and this could be reduced to 1200mm to achieve a higher count.
Minimum free width cold aisle (Inside cage)	1. ≥1200mm (48in)	**Optimum**	1200mm can be provided
Minimum hot aisle width	1. ≥1200mm (48in)	**Optimum**	Hot aisle containment is the basis of design and the standard pitch is 1200mm to tie up with the structural ceiling penetration.
Inlet air conditions	1. ASHRAE Class A1 Allowable	**Optimum**	The basis of design is ASHRAE Recommended range which is more stringent in terms of inlet temperature. However, controlled excursions into the allowable range A1 would be welcomed if accepted by the customer, so as to improve energy efficiency and total cost of operation to the customer. Humidity will also meet the recommended or allowable range.
Air quality	1. EN 779 G4 and F7 filtering & Gas particulate monitoring to the ANSI/ISA 74.04-1985 G severity levels	**Optimum**	Fresh air make-up AHUs are provided on an N+1 redundancy basis to maintain pressure control and humidity. Basis of design for AHU filtering is G4 and F7 as standard. Additional filtration will also be provided in the fan wall unit on the return air path. Where corrosion above Level G1 is detected, additional gaseous and particulate filtering can be provided.
Temperature rise	1. ≥12 Deg C DeltaT	**Optimum**	The basis of design is 12K (12°C pick up of heat from the inlet to the outlet of the IT equipment) across the IT rack, although high temperatures are permissible.
Cabinet blanking of open space	1. Mandatory	**Optimum**	Mandatory that customers provide blanking plates within their racks or where racks are not provided within a contained aisle.
CABLING			
Cabling infrastructure pathways	1. Top and Front of rack fed	**Optimum**	Top entry and front presentation for all power and network connectivity.
Overhead Network Infrastructure containment levels	1. 3 Levels (Intra-Pod cabling; Inter-Pod cabling; OOB cabling)	**Optimum**	The clear height of the technical space is 3900mm, which should accommodate 3 levels cabling; this is subject to customer requirements
Fibre Type (if installed)	2. Installed Per Customer Requirements	**Acceptable**	Dependent on Customer requirements
Fibre connection presentation (if installed)	2. Installed Per Customer Requirements	**Acceptable**	Dependent on Customer requirements
CONSIDERATIONS (For information only)	**Parameter**	**Result**	**Notes**
SERVICE			
Replacement PSU Modules	2. Other (Notes required)	**Acceptable**	This service is not currently provided and would be dependant upon the ownership of the racks. However, a remote hands service could be agreed.
Replacement BBU Modules	2. Other (Notes required)	**Acceptable**	This service is not currently provided and would be dependant upon the ownership of the racks. However, a remote hands service could be agreed.
Option to monitor PSUs and BBUs	2. No	**Acceptable**	This service is not currently provided and would be dependant upon the ownership of the racks. However, a remote hands service could be agreed.
Remote hands for PSU and BBU replacement or expansion	2. No	**Acceptable**	This service is not currently provided and would be dependant upon the ownership of the racks. However, a remote hands service could be agreed.
Remote hands for OCP IT hardware replacement or expansion	2. No	**Acceptable**	This service is not currently provided and would be dependant upon the ownership of the racks. However, a remote hands service could be agreed.
EFFICIENCY			
Site Operations Standards	2. Other (Notes required)	**Acceptable**	Global Switch follow internal operational standards and have a Critical Environments Programme in place

Site PUE Monitoring	1. Continuously monitored	**Optimum**	The Technical Suite PUE will be continuously monitored using MID power meters at the supply to the overhead busbar (L2) which is reported back to the on-site PMS system. Additional more granular monitoring can be provided at the tap off to the IT racks.
Site Design PUE	1. <1.2	**Optimum**	The annualised PUE associated with the suite, including the shared infrastructure, will be less than 1.2 @ 100% IT load. An independent design PUE report is available upon request.
Site Annualized PUE Current Achievement	1. <1.2	**Optimum**	The predicted annualised PUE is <1.2 but the facility has not been operational for 12 months with customer load, therefore this metric score will be updated at that point
Site WUE Monitoring	1. Continuously monitored	**Optimum**	WUE will be monitored via water meters that supply the facility and sub-meters at the external cooling units that will use water to provide cooling. This consumption data will be continuously monitored by the on-site PMS system to generate a WUE value.
Site CUE Monitoring	1. Continuously monitored	**Optimum**	The on-site PMS will convert the energy consumption data to provide a continuous CUE metric.
OPENNESS			
PUE Published	2. Available upon request	**Acceptable**	The PUE related to the customers demise can be published to the customer.
Facility Design Drawings & Files	2. Available to view upon request	**Acceptable**	As Built drawings are available for customers and prospective customers to view. Online access to drawings that relate to a customers demise may, with prior consent, be accessible from the online Global Switch Customer portal.