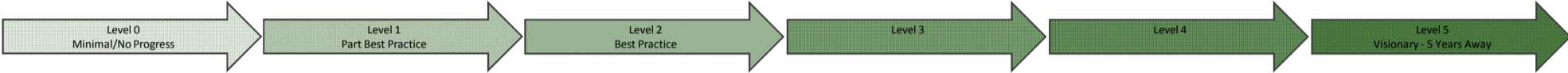


Data Center Maturity Model



Facility

Other - Facility

3.1	Operational Resilience	<ul style="list-style-type: none"> Unclear mapping of resilience 	<ul style="list-style-type: none"> Clear mapping and understanding of resilient M&E components 	<ul style="list-style-type: none"> Standardize approach to mapping resilience across the data centers and IT component - M&E, Data Cabling, Network, IT etc. 	<ul style="list-style-type: none"> Centralized view of resilience across all M&E and IT components including understanding of all upstream and downstream relationships 	<ul style="list-style-type: none"> Automated updates on resilience based on changes made in the data center (e.g. if a component was to fail, components being maintained etc.) including full understanding of all impacts upstream and downstream
3.2	Resilience vs. Need	<ul style="list-style-type: none"> Business requirements 'unknown' - data center resilience not matched 	<ul style="list-style-type: none"> Business requirements 'known' - data center resilience not matched 	<ul style="list-style-type: none"> Matching data center resilience to SLA between Operations and Business Units 	<ul style="list-style-type: none"> Matching resilience to actual business need 	<ul style="list-style-type: none"> Matching resilience to the individual platform service
3.3	Lighting	<ul style="list-style-type: none"> Inefficient lighting - 24 x 7 	<ul style="list-style-type: none"> Optimize Lighting Move to lighter color cabinets to minimize lighting requirement 	<ul style="list-style-type: none"> Intelligent high efficiency lighting including sensor technology Reduce dependency on electrical lighting systems by using natural lighting 	<ul style="list-style-type: none"> Reduce dependency on electrical lighting systems by 15% e.g. Natural lighting, Daylighting, Lightpipes, etc. 	<ul style="list-style-type: none"> Daylighting and/or lightpipes/tubes used to augment and reduce dependency on electrical lighting systems by 40% Maximize natural light, where lighting technologies are installed use components with a lower energy consumption, greater quality of light, longer lifespan and from recyclable components
3.4	Building/Shell		<ul style="list-style-type: none"> Data center building/shell in accordance with local sustainability standard (e.g. LEED in the US, BREEAM in the UK or similar) - Bronze standard 	<ul style="list-style-type: none"> Data center building/shell in accordance with local sustainability standard (e.g. LEED in the US, BREEAM in the UK or similar) - Silver standard 	<ul style="list-style-type: none"> Data center building/shell in accordance with local sustainability standard (e.g. LEED in the US, BREEAM in the UK or similar) - Gold standard 	<ul style="list-style-type: none"> Data center building/shell to exceed Platinum ratings by 15% in terms of reduce, reuse, recycling, land/environmental impact, and consumption of natural resources in the design and build process
3.5	M&E Waste	<ul style="list-style-type: none"> M&E waste strategy not in place 	<ul style="list-style-type: none"> Reuse policy for components across the organization 	<ul style="list-style-type: none"> M&E waste vendor in place to deal with all equipment aligned to local/national mandatory regulations 	<ul style="list-style-type: none"> Supplier and supply chain evaluated for waste management and environmental protection practices 	<ul style="list-style-type: none"> Supplier and supply chain waste & environmental compliance programs included as part of procurement/sourcing decision process
3.6	Procurement	<ul style="list-style-type: none"> Energy & sustainability aspects not considered as part of procurement 	<ul style="list-style-type: none"> Procure assets that comply with reducing hazardous substances and are recyclable 	<ul style="list-style-type: none"> Purchase only equipment required - rightsize equipment to need Reduction in waste by minimizing packaging from supplier Procure energy efficient equipment that comply with Energy Star or similar standards and metrics Purchasing decision based on TCO modelling 	<ul style="list-style-type: none"> Components in the data center to be operable at higher temperatures in alignment with Other IT Level 3 - "All IT equipment for the data center available to be operated continuously and warrantied at air inlets temperatures between 15°C/59°F and 32°C/89.6°F and 20% - 80% Relative Humidity, non-condensing respectively." 	<ul style="list-style-type: none"> Components in the data center to be operable at higher temperatures in alignment with Other IT Level 5 - "All IT equipment for the data center available to be operated continuously and warrantied at air inlets temperatures between 5°C/41°F and 40°C/104°F (and under exceptional conditions up to +45°C/113°F) and 10% - 80% Relative Humidity, non-condensing respectively." Cradle to cradle lifecycle view on all M&E equipment - looking at embedded carbon, ease of recycling of the product, etc. Carbon intensity of different M&E options considered