



aggreko

Robust IST for new Data Centre

CUSTOMER

Asian-based Co-Location player

LOCATION

Tier One City, Indonesia

SECTOR

Data Centres

KEY FACTS

1,450 kW

Capacity of Tier III Data Centre

21 Days

Of commissioning

1,500 kW

Load test

12 x 200 kW

Digital Heat Load Banks

350 x

Server racks

THE CHALLENGE

Commissioning protocol & International standard compliant electrical and heat load testing for large data hall

A new data centre in one of Indonesia’s tier one city was slated to open and as part of its commissioning process to validate its power and cooling infrastructure, a robust Level 5 Integrated System Test (IST) was required. It includes testing of electrical circuits, the performance during unbalanced load events, thermo-visual inspection for hot-spots on bus ducts and the heat load test of the cooling system and the temperature-activated fire control system.

In Europe and North America, where larger data halls have been built for longer, IST’s are typically carried out by connecting an array of 100-500 kw load banks to simulate electrical and heat load. These are connected to the Power Distribution Units (PDUs) or overhead tap-off boxes. In Asia, where co-location providers are moving to larger data halls only more recently, the industry practice has been more reliant on small-scale heaters or fans as small

as 3 kw to simulate server loads. With data halls of 1450 kw (and more for hyperscale facilities) this can be a cumbersome process with hundreds or thousands of manual units requiring manual placement and clogging the data hall. The analogue nature of the heaters also prevents an accurate control of load parameters and the logging and reporting data results.

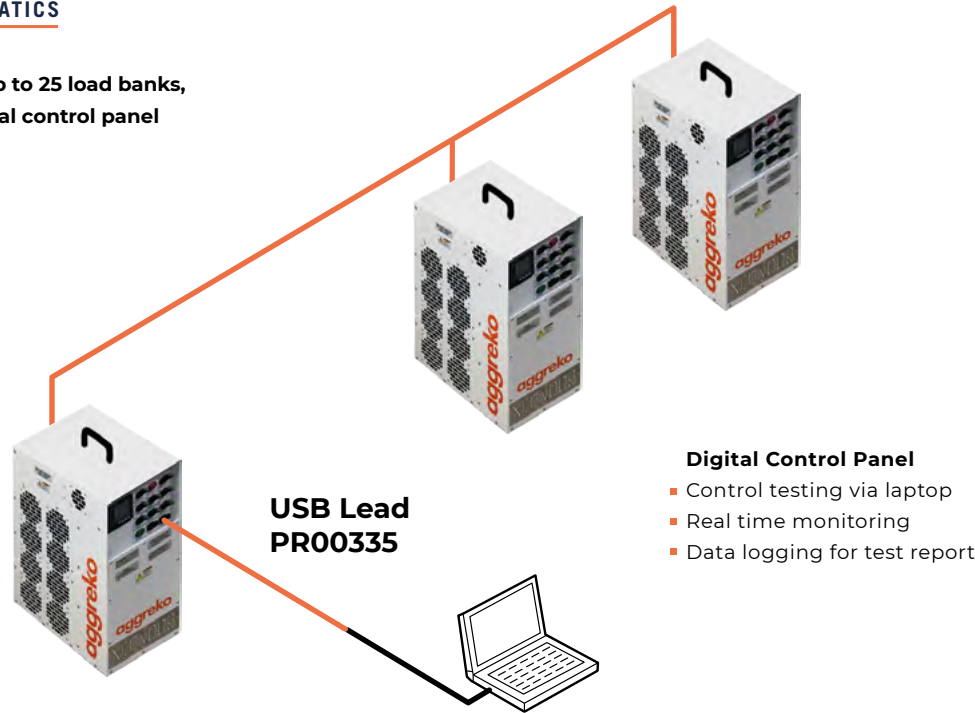
The customer had been planning to import the

international practice for their Jakarta project and approached Aggreko for a solution that fits its load testing requirements.



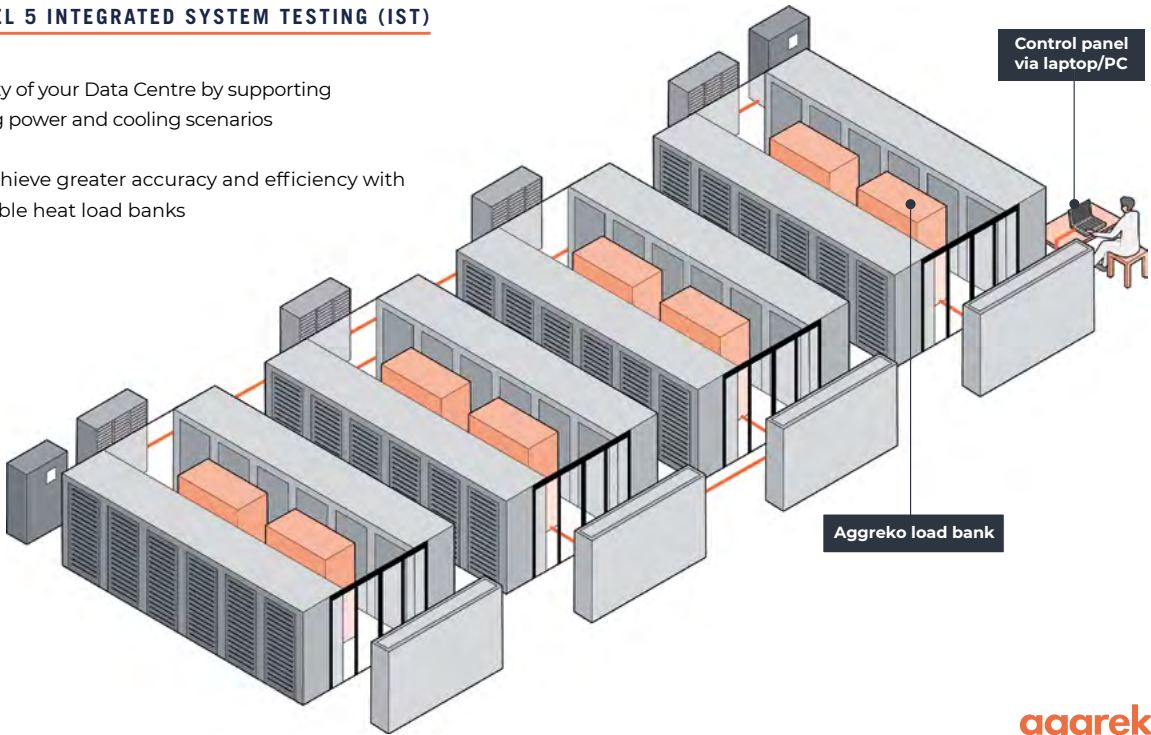
LOAD TEST SET-UP SCHEMATICS

Allows interconnection of up to 25 load banks, all controlled from one digital control panel



BEST IN-CLASS LEVEL 5 INTEGRATED SYSTEM TESTING (IST)

- Verifies the survivability of your Data Centre by supporting simulations for varying power and cooling scenarios
- Get real-time data, achieve greater accuracy and efficiency with digital-enabled portable heat load banks



THE SOLUTION

Comprehensive, cutting-edge testing solution with digitally controlled solution and synchronisation

Every project is unique, which calls for a customised approach for design. Our engineering specialists partnered closely with the Co-lo customer’s operations team throughout the entire design process to understand the site’s infrastructure set-up and challenges for a customised solution.

The agreed approach was to connect 12X load banks

rated up to 200 kw each to the two overhead ducts in the data hall to test loads of 1600-2000amp. Aggreko has previously deployed these portable load banks globally for various testing operations for major cloud and co-location operators, which gave the client full confidence of its performance as part of the IST.

The load banks are ‘smart’ units, which are

connected in parallel through control cables. This makes it a breeze to manage incremental loads by keying in and stepping up or down with precision through a laptop.

Load test data such as kW, voltage and frequency are reflected real-time on the digital control system, providing process visibility and assurance. Digital-based scaling also takes away the cumbersome

process of physical shifting and placement of the load banks in accordance with the server rack’s placement in the sprawling data hall - saving plenty of hours and reduced testing time. Since the testing is recorded through the operating software, reports can also be generated and documented as proof of the facility’s resilience for customers and certification bodies.

THE IMPACT

Uptime Institute **accreditation met** and data centre commissioned

The data hall IST is of paramount importance to any data centre. Aggreko's load testing solution provided our customer with the equipment and technical support to carry out its commissioning to

international standards, coupled with full assurance of its data halls' resilience in handling maximum IT loads.

Our innovative, digitalised load testing solution

enables the co-lo operator to share detailed testing data and reports with their enterprise customers who are increasingly vetting facility resilience. It also helped facilitate our customer's successful

Tier III accreditation with the global data centre certifying body- [Uptime Institute](https://uptimeinstitute.com).

THE AGGREKO DIFFERENCE

We'll help you attain the industry accreditation for your facility

