



Business challenge

Expand IT resources to accommodate new researchers while maintaining control over resources and controlling costs.

Transformation

IBM® Global Technology Services® (GTS) worked with Schneider Electric to design, build and deploy a Prefabricated Modular Data Center (PMDC) solution. The solution enabled the G-INCPM to add capacity quickly and economically while retaining tight control and security over IT resources.

Business benefits

7 months

Rapid solution deployment
saves years compared with building a traditional data center

40-50% less

Reduced capital costs
compared with constructing a traditional data center facility

15% lower

Less power and energy
compared with other solutions

G-INCPM

Driving new scientific research with a Prefabricated Modular Data Center solution

As part of the Weizmann Institute of Science, the Nancy & Stephen Grand Israel National Center for Personalized Medicine (G-INCPM) is an advanced research facility, providing Israeli scientists with state-of-the-art genomics, protein profiling, drug discovery and bioinformatics resources.

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Moving toward personalized medicine through advanced technology

Founded in 2012, the G-INCPM helps pave the way for new scientific discoveries that can advance the development of personalized medicine. The organization brings together academic, medical and biomedical industry researchers, giving them access to cutting-edge technology. Researchers require powerful servers and large-capacity storage environments to collect, analyze and store the data produced through research.

As the G-INCPM has grown over the years, it began to reach the limits of its current data center. The IT team needed to expand the capacity of IT resources to support a rising number of researchers and facilitate increasingly complex, data-intensive research. Finding a solution that could be deployed quickly was key; the IT team did not want to slow down the addition of new researchers or place technology limitations on research projects.



At the same time, the IT team wanted to retain control over its infrastructure and help ensure the tightest security for research data. The team also wanted to keep any new data center in close physical proximity to its IT staff and existing facilities.

Designing and deploying the PMDC with IBM GTS

IBM GTS oversaw the processes of designing, building and deploying the PMDC solution. First, GTS worked with the IT team from G-INCPM to

define requirements and assemble an initial design concept. The GTS team then worked with Schneider Electric—a global specialist in energy management and automation, and a longtime strategic IBM Business Partner—to develop the plan for building the solution. After completing a detailed design, the GTS team collaborated with the Schneider Electric engineers working in Spain to meet all of the technical requirements of the G-INCPM as well as all of the Israeli import requirements and standards.

Schneider Electric manufactured the PMDC, incorporating electrical systems, cooling systems, racks, uninterruptible power supplies, diesel generators and other systems to meet the custom requests of the G-INCPM team. The GTS team oversaw adjustments to optimize the design as the project progressed, such as changing the dimensions of the racks.

When the build was complete, the GTS team conducted testing in Spain, which was attended by the G-INCPM IT group. The Schneider Electric team, with the cooperation of GTS, then arranged transportation—first by sea and then by truck—to the G-INCPM deployment location, which was adjacent to its new office facility. Schneider Electric and GTS worked together through onsite setup, connecting electrical, communication and drainage systems. The GTS team then physically moved and installed the G-INCPM IT equipment from the existing data center and conducted final site testing.

Achieving a fast deployment and enabling easy scalability

Led by the GTS team, the entire project took seven months from the initial contract signing to completion of the deployment. By contrast, building a new, traditional data center

from the ground up might take a number of years. The expedited timeline enabled G-INCPM to add researchers and offer support for larger projects in a very short amount of time.

Avoiding high capital costs and cutting operating costs

Selecting a PMDC helped avoid the high capital costs of building a new data center. In fact, building a PMDC costs approximately 40 to 50 percent less than constructing a new data center facility. The organization can reinvest that cost savings into further expanding the IT environment or simply improving the bottom line.

The efficient, high-density PMDC is also helping control ongoing costs, including the costs of power and cooling. Like many IT groups, the G-INCPM team aims to achieve a

low power usage effectiveness (PUE) rating, which represents the total facility energy divided by the IT equipment energy. While some facilities might hope to achieve a 1.8 or 1.9 rating, this PMDC implementation expects to achieve a rating closer to 1.65. As a result, the organization anticipates significant energy savings compared with traditional brick-and-mortar facilities.

Maintaining control over the infrastructure

Unlike a co-location approach, the PMDC allows the G-INCPM team to retain complete control over the infrastructure. Because the PMDC is located next to an existing facility, IT staff can easily access equipment for any maintenance or management tasks. The PMDC is populated with the organization's own equipment, so the IT team does not have to conduct any specialized training or hire more staff to manage the environment.

At the same time, the G-INCPM can help ensure tight security for research data. The organization can capitalize on existing physical security measures and employ its preferred methods of data security.

Looking ahead to new discoveries

The G-INCPM can now provide existing researchers with ready access to more expansive technology resources so they can undertake larger, more complex projects. The organization can also better support a growing international community that relies on the G-INCPM to foster groundbreaking research.

Solution components

- IBM GTS Infrastructure Services – Resiliency Services
- IBM Prefabricated Modular Data Center
- Schneider Electric Data Center Solutions and Services

Connect with us



Take the next step

To learn more about IBM GTS Resiliency Services, visit: ibm.com/services/resiliency

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