

Hot Aisle Containment Solution Reduces Power Consumption and Boosts Sustainability in Basefarm's New, Mission Critical Data Centre

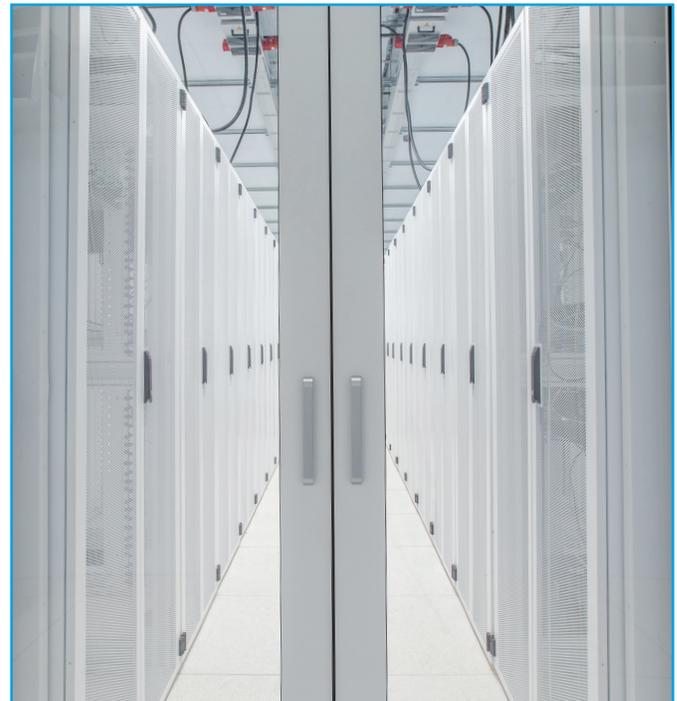
Basefarm, a leading, global IT hosting and colocation services provider, securely hosts more than 35,000 services and reaches over 40 million end users worldwide in industries ranging from finance and government, to media and travel. Headquartered in Oslo, Norway, Basefarm offers its customers advanced technology solutions, high-end cloud services, application management and colocation from its six data centres located throughout Europe.

In response to growing demand for its colocation services, Basefarm set out in March 2015 to design and build a green, state-of-the-art data centre—Basefarm Oslo 5.

Planning for an Energy-Efficient Data Centre

“The brief for the new site was to create the most energy-efficient data centre in Oslo,” said Ketil Hjort Elgethun, Senior System Consultant, Basefarm. “Cooling was a key factor in the design, so we set out to find an airflow containment and cabinet package that could maximise the return on our cooling equipment, and provide a thermal solution for all the racks and cabinets within, whilst being flexible and easy to use.”

What Basefarm sought was a customised cabinet and containment solution, one that would allow it to rapidly respond to the future deployment of integrated cabinets, as well as accommodate a variety of cabinet sizes. With Chatsworth Products' (CPI) Build To Spec (BTS) Kit Hot Aisle Containment (HAC) Solution and GF-Series GlobalFrame® Gen 2 Cabinet Systems, Basefarm found the optimal solution.



CPI designed a customised cabinet and containment solution that provides flexibility and room for growth.

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“The cabinet platform on which your enterprise is built is just as critical as the equipment it stores. Using a properly configured cabinet that is designed to fit your equipment and work with your data centre’s cooling system is crucial,” commented Magnus Lundberg, Regional Sales Manager, CPI.

Cooling through Hot Aisle Containment

Integral to the design of Basefarm Oslo 5 was a state-of-the-art, air-to-air cooling system, designed to deliver high levels of cooling with exceptionally low power consumption.



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CPI's BTS Kit effectively isolates hot exhaust air and directs it back to the air-to-air cooling system, increasing cooling efficiency.

This innovative cooling technology demanded a containment strategy that could effectively manage the separation of hot and cold airflow. The solution needed to be of the highest quality, easy to work with and flexible enough to accommodate a mix of cabinets and equipment from multiple suppliers.

HAC solutions isolate hot exhaust air from IT equipment, and direct back to the air-to-air cooling system through a vertical exhaust duct, which guides the hot exhaust air away from the cabinet to support a closed return application. This ability to isolate, redirect and recycle hot exhaust air was exactly what Basefarm was looking for in its new super-efficient data centre design.

Basefarm worked closely with CPI engineers to create a layout that included the BTS Kit, allowing the flexibility to field-fabricate ducts over the contained aisle. This was key to the ongoing needs of Basefarm Oslo 5 because the BTS Kit can be used over a mix of cabinets of different heights, widths and depths in the same row and can be ceiling- or cabinet-supported. BTS Kit also features an elevated, single-piece duct, allowing cabinets to be removed, omitted or replaced as required. With a high-quality Glacier White finish that reflects more light, a durable construction and a maintenance-free design, the BTS Kit has given Basefarm the security of enduring performance in building its new mission critical data centre.

Along with the BTS Kit, CPI supplied Basefarm with a range of GF-Series GlobalFrame Cabinets with Finger Cable Managers installed. The GF-Series GlobalFrame Cabinet System is an industry-standard server and network equipment storage solution that provides smarter airflow management. Also in a Glacier White finish, GlobalFrame Cabinets feature perforated areas on the doors that are 78 percent open to maximise airflow.

"During the design phase, we considered many different options for cabinet and containment solutions. CPI's GlobalFrame Cabinets and the BTS Kit stood out as the best-in-class to meet our needs in building a super-efficient data centre," added Elgethun.

With CPI's cabinets and aisle containment, Basefarm had deployed a solution that allowed them to:

- Eliminate hot spots
- Support 4x higher heat and power densities (6 kW to 30+ kW)
- Utilise 100 percent of supplied air, and reduce chilled air waste
- Allow increased room temperature and higher set-points on cooling equipment for more free cooling hours using the air-to-air cooling system

The Result: A Reliable and Sustainable Data Centre

The dream of building Oslo's most reliable and sustainable data centre became a reality, just one year after the design process began, when phase 1 of Basefarm Oslo 5 was completed. In Spring 2016, the new data centre went live, offering Basefarm customers access to more than 10 megawatts of critical capacity and up to 6000 square metres of white space. Located only five kilometres away from Basefarm's existing data centre, Basefarm Oslo 5 will be used as part of a dual site solution for customers requiring high levels of redundancy.

Finding an innovative and low-cost cooling solution was a top-level priority for the Basefarm design team from the start. In a facility designed to grow over the next five years, beyond meeting the desired Power Usage Effectiveness (PUE) goal of 1.1, this was a chance to break new ground and become a model for other green data centres to follow.

With the flexibility CPI's BTS Kit and GlobalFrame Cabinet Systems provided, Basefarm can now quickly scale the new data centre to accommodate its clients' future colocation needs.

"The combination of the quality and design of CPI's products and their responsiveness during deployment, meant it was a win-win situation for Basefarm. The cost of improving our PUE numbers by 10 percent is a small cost compared to being able to use the space 80 percent more effectively. And it looks great!" Elgethun stated.

Taking a team approach was the key to building the trust needed for Basefarm and CPI to work together to successfully design and build Oslo's biggest and greenest data centre yet—Basefarm Oslo 5. 

About Basefarm

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About Chatsworth Products

At Chatsworth Products (CPI), it is our mission to address today's critical IT infrastructure needs with products and services that protect your ever-growing investment in information and communication technology. We act as your business partner and are uniquely prepared to respond to your specific requirements with global availability and rapid product customisation that will give you a competitive advantage. At CPI, our passion works for you. With over two decades of engineering innovative IT physical layer solutions for the Fortune 500 and multinational corporations, CPI can respond to your business requirements with unequalled application expertise, customer service and technical support, as well as a global network of industry-leading distributors. Headquartered in the United States, CPI operates from multiple sites worldwide, including offices in Mexico, Canada, China, the United Arab Emirates and the United Kingdom. CPI's manufacturing facilities are located in the United States, Asia and Europe.



The GlobalFrame Cabinet provides reliable equipment support, superior cable organisation and smart airflow management.

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