SmartRow™
Intelligent, Integrated Infrastructure in a Self-Contained Line-Up

EMERSON
Network Power

Deploy a Fully Configured Data Center in Just Weeks

Efficiency. Capacity. Availability. Control.

You need them – and now you can have them all. Another first from Emerson Network Power.

Conventional data center designs may require physical infrastructure that is too costly or slow to implement for the needs of some IT and data center managers.

Adding new capacity often means major upgrades to infrastructure – new power and cooling systems, raised floors and fire suppression. For new IT spaces, remote locations and backup sites, both high cost and slow deployment can hinder projects. Even the smallest data centers may be prohibitively expensive and take many months to deploy.

Faced with these challenges, IT and data center managers are seeking infrastructure solutions for smaller spaces that provide:

- Fully integrated, standalone systems that don't require expensive room upgrades

- Simplicity in design and deployment so systems can be up and running quickly and easily expanded as needed

- Higher operational, space and energy efficiencies

- Optimal systems availability to ensure continuity of new and future IT equipment

- Flexibility and a clear growth path for capacity growth

Introducing The SmartRow™ Solution

The SmartRow solution is an intelligent integrated infrastructure that can be implemented in just weeks. It allows you to easily deploy and effectively manage an integrated IT infrastructure without being limited by building systems, such as fire suppression and cooling.

It is available in three- to six-rack configurations for up to 20kW of total capacity, allowing you the flexibility to start small and expand over time.

This space-saving and cost-effective solution combines the industry's finest power, precision cooling and infrastructure management technologies in a sealed environment – meaning you can place it in virtually any conditioned space.

Each SmartRow offering integrates industry best practices in data center design and operations including:

- Hot air and cold air separation

- Cold air containment

- High-efficiency dedicated cooling

- Space-savings, small-footprint

- Modularity for flexibility and easier expansion

- Integrated monitoring and control to optimize efficiency in planning and management

- Unique local service for design audits, configuration support, installation support, maintenance and repair

- High availability and high efficiency UPS

- Integrated fire suppression

Smart Solutions
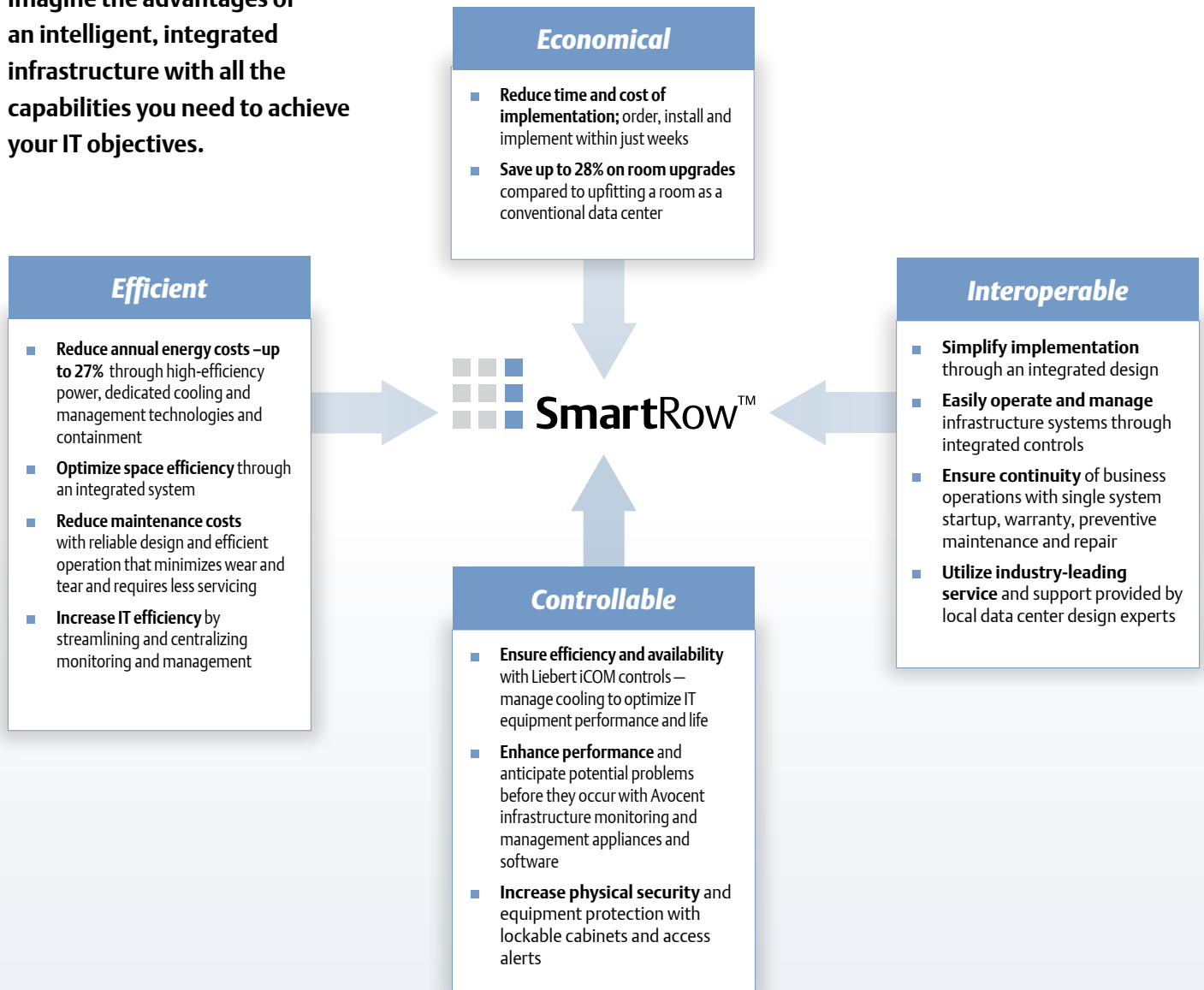Intelligent, integrated infrastructure for the data center

SmartRow™

SmartMod™

SmartAisle™

The Smart Solutions family helps you cost-effectively achieve and manage higher levels of density, availability and efficiency.

What Makes The SmartRow Offering Unique?

Imagine the advantages of an intelligent, integrated infrastructure with all the capabilities you need to achieve your IT objectives.

Economical

- **Reduce time and cost of implementation;** order, install and implement within just weeks
- **Save up to 28% on room upgrades** compared to upfitting a room as a conventional data center

Efficient

- **Reduce annual energy costs –up to 27%** through high-efficiency power, dedicated cooling and management technologies and containment
- **Optimize space efficiency** through an integrated system
- **Reduce maintenance costs** with reliable design and efficient operation that minimizes wear and tear and requires less servicing
- **Increase IT efficiency** by streamlining and centralizing monitoring and management

SmartRow™

Interoperable

- **Simplify implementation** through an integrated design
- **Easily operate and manage** infrastructure systems through integrated controls
- **Ensure continuity** of business operations with single system startup, warranty, preventive maintenance and repair
- **Utilize industry-leading service** and support provided by local data center design experts

Controllable

- **Ensure efficiency and availability** with Liebert iCOM controls — manage cooling to optimize IT equipment performance and life
- **Enhance performance** and anticipate potential problems before they occur with Avocent infrastructure monitoring and management appliances and software
- **Increase physical security** and equipment protection with lockable cabinets and access alerts

Where to Use the SmartRow Infrastructure Solution

A simple solution designed to expand IT capacity when you don't have the luxury of more data center space.

The SmartRow solution is ideally suited for environments where dedicated IT room improvements are not practical or cost effective. It is the perfect solution for spaces not designed to be IT environments. And it can be placed unobtrusively into work spaces.

No fire suppression system upgrades to the room are needed since fire suppression is integrated into the solution. No dedicated room cooling is necessary, and it can work in a non-raised floor environment.

This space-saving solution integrates the industry's finest and most efficient infrastructure technologies all within a single row. It is well suited to serve as a primary data center or a separate disaster recovery solution.

(1) High-efficiency dedicated cooling and environmental controls – Liebert Challenger 3000 dedicated cooling system with Liebert iCOM controls and patented digital scroll technology to match cooling to rack load

(2) Room-neutral design – allows this system to be placed virtually anywhere, even in environments where people are working

(3) Secure – Lockable cabinets and access-triggered alarms work together to put you in control of your environment

(4) Integrated fire suppression – saves 66% over room-based systems by avoiding room upgrades

(5) Simple, fully integrated infrastructure – racks, dedicated cooling, management, fire suppression, cable management and power distribution are designed to work together, saving you time and money on installation and operation

(6) Sealed plenums and contained airflow – provide greater cooling efficiency

(7) Integrated back-up fans - operated by UPS in case of outage

(8) Comprehensive, remote data center infrastructure management – Avocent appliances and software provide comprehensive, remote monitoring and control

(9) Flexible platform for easy configuration – Knurr DCM racks accommodate any type of IT or networking equipment, and maximize space utilization

(10) Reliable on-line uninterruptible power – Liebert GXT3 UPS with the industry's smallest footprint

(11) Flexible rack PDUs — Liebert MPX adaptive rack PDU or Liebert MPH managed rack PDU provide flexibility and power control at the receptacle level, and faster implementation of IT equipment

(12) Self-sealing low-voltage cable entry in top or rear of plenum

(13) Power connections - and heat rejection connections

SmartRow™

Simple, fully integrated infrastructure – racks, dedicated cooling, management, fire suppression, cable management and power distribution are designed to work together, saving you time and money on installation and operation.
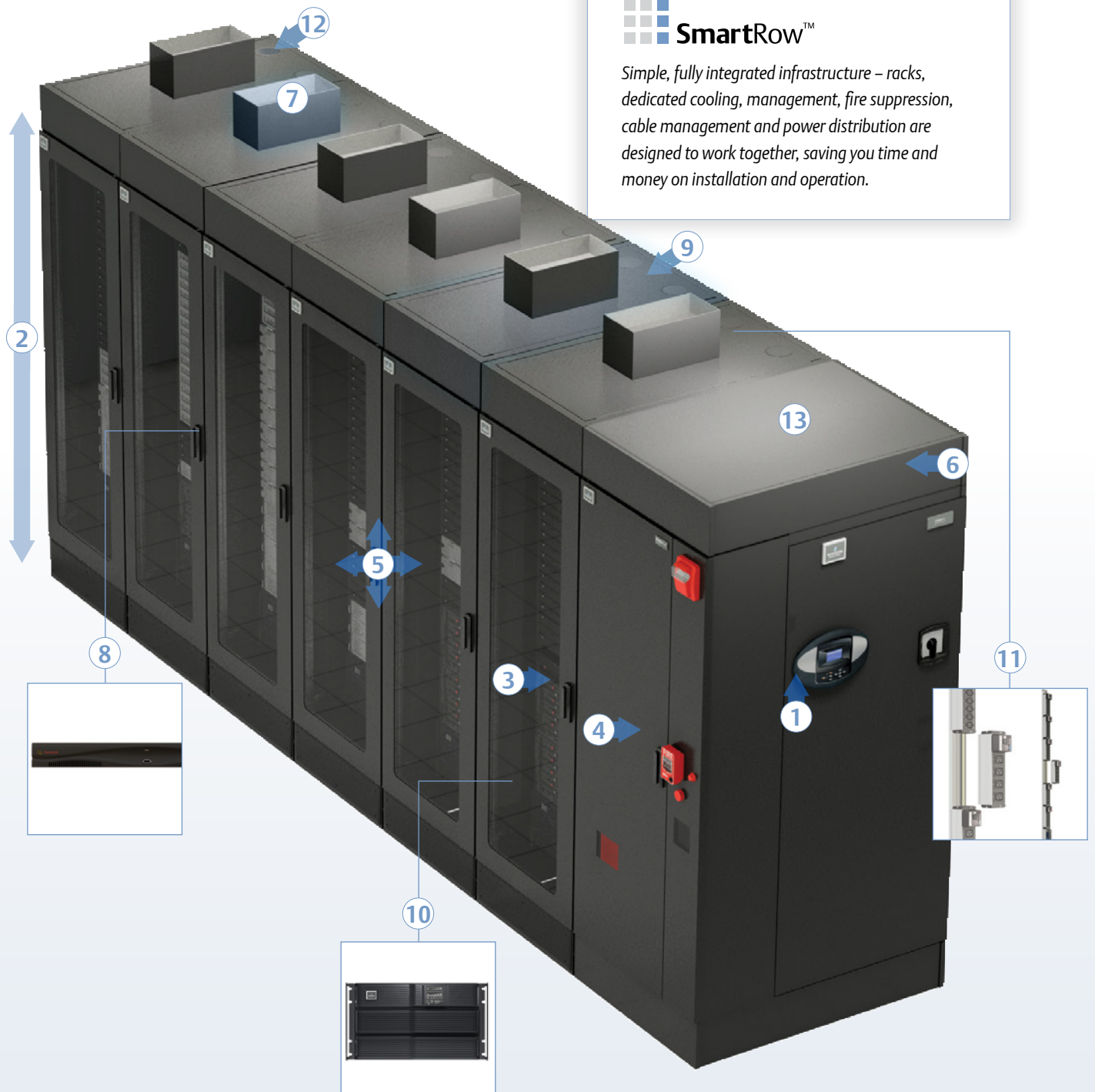
Efficient and Economical

SmartRow™

Highly favorable CAPEX

- Save up to 28% on room upgrades compared to upfitting a room using conventional data center design

Highly favorable OPEX

- Reduced energy costs from more efficient cooling and server performance – up to 27% savings through high-efficiency power, cooling and management technologies and containment

- Lower preventative maintenance costs than a traditional data center – one data center reduced expenditures by as much as 33%

By reducing the cost of energy, space, service and IT management, the SmartRow solution makes your infrastructure decisions smarter and easier.

	Conventional Data Center Design	SmartRow Design	Cost Savings	% SmartRow Advantage
Room Costs	$ 60,000	43,000	$ 17,000	28%
Infrastructure Costs	$ 105,000	$ 109,000	- $ 4,000	-3%
Total Capital Expense	$ 165,000	$ 152,000	$ 13,000	8%
Energy Consumption	$ 8,700	$ 6,400	$ 2,300	27%
5 Year OpEx	$ 44,000	$ 32,000	$ 12,000	27%
5 Year TCO	$ 209,000	$ 184,000	$ 25,500	12%

Sealed plenums and contained airflow

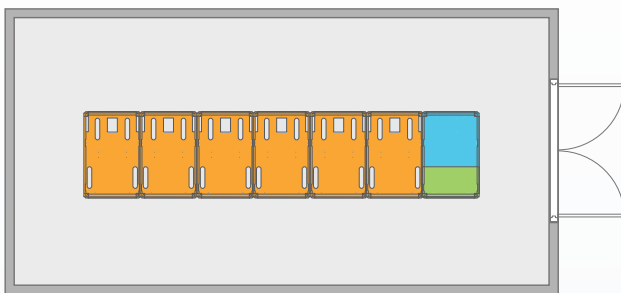Emergency back-up fans

Warm return air back to cooling unit

Diffusers distribute cool air to the front of the the IT equipment

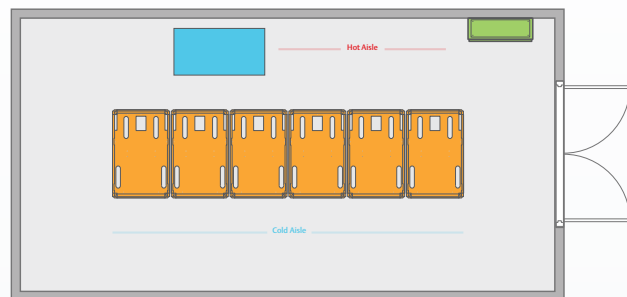High-efficiency dedicated cooling

Sealed plenums and contained airflow
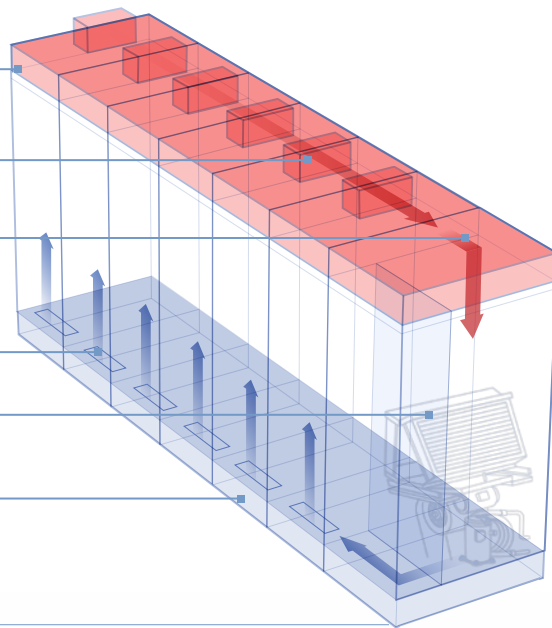
SmartRow

18 kW, 288 sq ft
6 racks
1 Precision Cooling System
6 Rack UPS Systems
Room neutral

Conventional

18 kW, 288 sq ft
6 racks
Ceiling mounted ducted cooling
6 Rack UPS Systems
Room renovation, fire suppression

- ■ Dedicated cooling
- ■ AC Power
- ■ Racks and Integrated Cabinets

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SL-11460(R1/11)   Printed in USA

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