# DATA CENTER
## SOLUTIONS

## DATA CENTER SOLUTIONS

EAE Elektrik is your reliable and innovative manufacturer worldwide offering Busbar, Rack Cabinet, Cable Tray and Support Systems to serve the critical Data Center infrastructure with peace of mind.

### CUSTOMER DRIVEN DESIGN
The EAE product family has been designed and manufactured to address the needs of end users. At all design steps, customer's feedback has been considered which guides our design engineers to end-up with more user friendly, modular and wide range products.

### LEAN PRODUCTION
To add value for the customers, increase productivity and quality, to manage competition, we strongly adopt "Lean Production". It is an important tool that helps EAE to act fast, create wide product portfolio and reduce manufacturing costs.

### INNOVATIVE APPROACH
The EAE product family provides innovative solutions such as Seismic Rack Cabinets and Seismic Support Systems, Particular Aisle and Containment for Cooling and In-aisle Lighting with continuous R&D studies to increase Energy Efficiency and maximize Uptime.
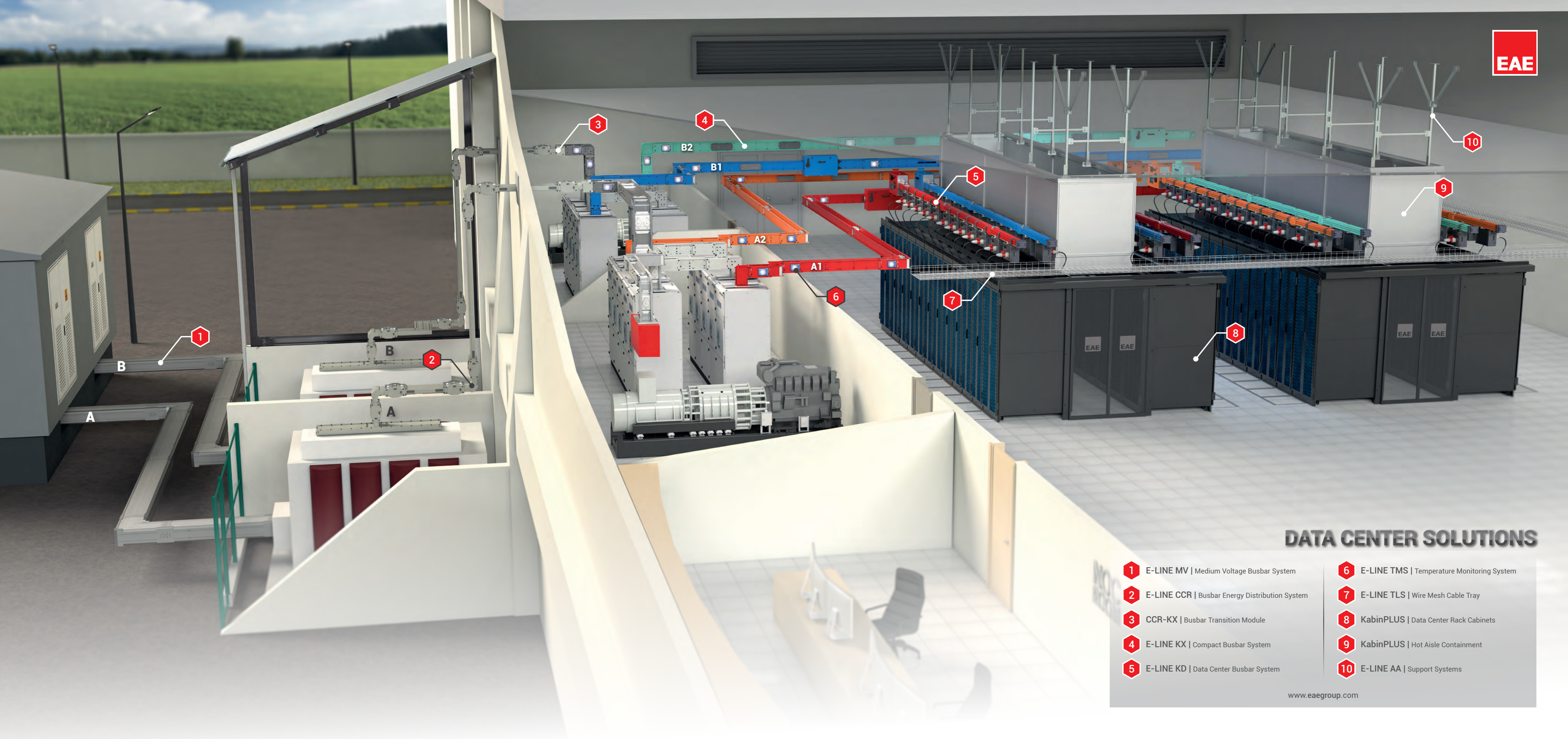
Energy Efficiency

Availability

Scalability

Security

**EAE**

**DATA CENTER SOLUTIONS**

| | | | | |
|---|---|---|---|---|
| **1** | E-LINE MV \| Medium Voltage Busbar System | | **6** | E-LINE TMS \| Temperature Monitoring System |
| **2** | E-LINE CCR \| Busbar Energy Distribution System | | **7** | E-LINE TLS \| Wire Mesh Cable Tray |
| **3** | CCR-KX \| Busbar Transition Module | | **8** | KabinPLUS \| Data Center Rack Cabinets |
| **4** | E-LINE KX \| Compact Busbar System | | **9** | KabinPLUS \| Hot Aisle Containment |
| **5** | E-LINE KD \| Data Center Busbar System | | **10** | E-LINE AA \| Support Systems |

www.eaegroup.com

# **EAE** Group
## in numbers;

**1973**
year of foundation

**280.000m²**
closed manufacturing area

**5**
manufacturing plants

**3**
R&D Centers

**100+**
countries of export

Founded in 1973, EAE Elektrik A.S. being the parent company of EAE Group is a worldwide manufacturer of electrical products.

| | |
|---|---|
| **Founded** | : in 1973 |
| **Closed Manufacturing Area** | : 280.000m2 |
| **Range of Products** | : Busbar Power Distribution Systems |
| | Lighting Busbar Systems |
| | Cable Tray Systems |
| | Underfloor Trunking |
| | Trolley Busbar Systems |
| **Companies** | : EAE Elektrik |
| | EAE Aydınlatma |
| | EAE Elektroteknik |
| | EAE Teknoloji |
| | EAE Makina |
| **Number of Plants** | : 5 |

"Lean Production" and "Innovative and Customer Driven Product Development" approaches are the key values utilized in designing and manufacturing the product families in compliance with ISO 9001, ISO 14001, OHSAS 18001 and ISO 27001.

EAE Elektrik A.S. busbar products are certified by KEMA/DEKRA (Holland), KEMA - KEUR, UL classified laboratories as per IEC 61439-1/6 standards.

Headquartered in Istanbul/Turkey, EAE Elektrik offers together with the EAE Group of companies, "Value Added" Data Center Solutions as described below:

• Busbar Power Distribution Systems (by EAE Elektrik)
• Cable Tray and Support Systems (by EAE Elektrik)
• Rack Cabinets & Containment Systems (by EAE Elektroteknik)
• Data Center Lighting Systems (by EAE Aydınlatma)

# DATA CENTER SOLUTIONS
Company Profile

**EAE**

### Supervision Services
Experienced EAE teams are available for measurements, installation and testing services on-site

### Short Response & Delivery Time
Extensive manufacturing capacity to provide order deliveries within 3-4 weeks' time (Ex-Works incoterms). Emergency manufacturing team can produce in 48 hours any urgent product requirement due to site hold or damaged items during installation
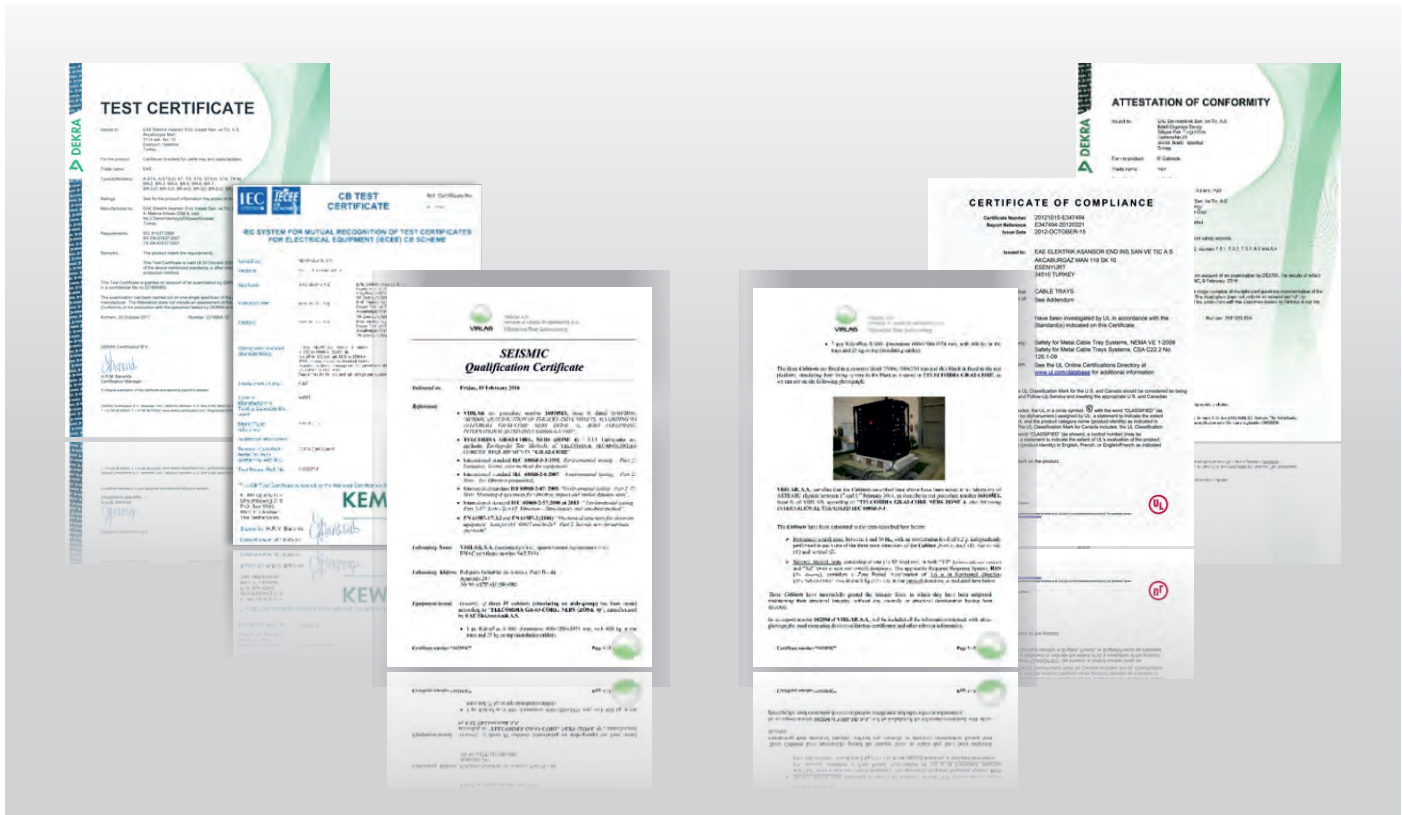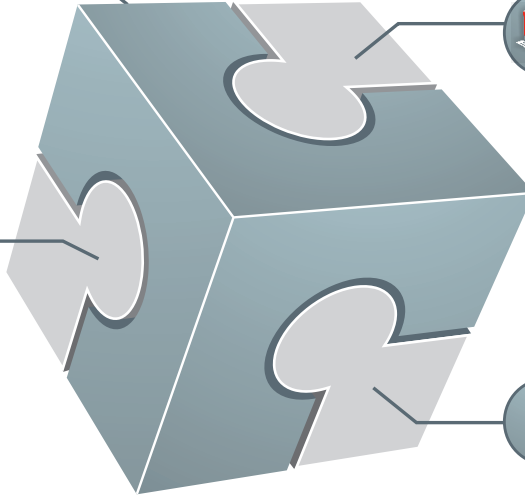
### Busbar Software, 3D and Revit Modelling
Easy-use software for practical and fast project design providing precise material lists. EAE Busbar products are available in Revit and Aveva libraries.

### Pre-Sales Customer Services
Comprehensive technical product consultancy for the tailored customer solution and technical design services free of charge

ENERGY EFFICIENCY

### ENERGY EFFICIENCY;

The accelerated rise of energy consumption in data centers and increasing global energy costs make the energy efficiency the permanent hot topic in the data center industry. Due to its big impact on energy efficiency, the heat sources in the IT Power Infrastructure shall be considered within the scope of an "Energy Optimization Program" leading to reduced power loss and naturally less heat dissipation. In addition to that, the cooling methods shall be considered and implemented carefully aiming to completely isolate cold cooling air and hot exhaust air with a correct airflow management by means of containment solutions.

AVAILABILITY

### AVAILABILITY;

The Uptime Institute defines Tier classifications for the proper design, build and operation of data centers. The availability of the data center for the active hardware (servers & switches) and its related power, cooling and digital connectivity infrastructure shall always be maintained during operation, maintenance and the upgrade processes. To ensure this, the IT Power Infrastructure shall provide High Short Circuit, High Fire Resistance, Hot-Swap Operations and Physical Durability as well as Busbar Tap-Off points Flexibility while The IT Passive Digital Infrastructure of Rack Cabinets and High Density Cable Tray Systems shall ensure end-to-end sustainability.

ASCALABILITY

### SCALABILITY;

The accelerated rise of the volume of data due to Colocation & Cloud Computing and also the recent trends such as IoT and new approaches in social media is the reason of the Data Center spaces to be LIVE environments with a lots of moves, adds and changes (MACs), bringing up the Scalability issue as one of the important challenges. The data center design approach shall consider the overall capacity increase for the first day and future upgrades with flexible implementations. The IT Power and Passive Digital Infrastructure with High Modularity, Flexible Project Management and Expansion, Time Saving Fast Installations, Free Standing Aisle Containments which are expandable and adaptable for standard and non-standard Rack Cabinets together with Wire Mesh Cable Trays ensure the fulfillment of this objective.
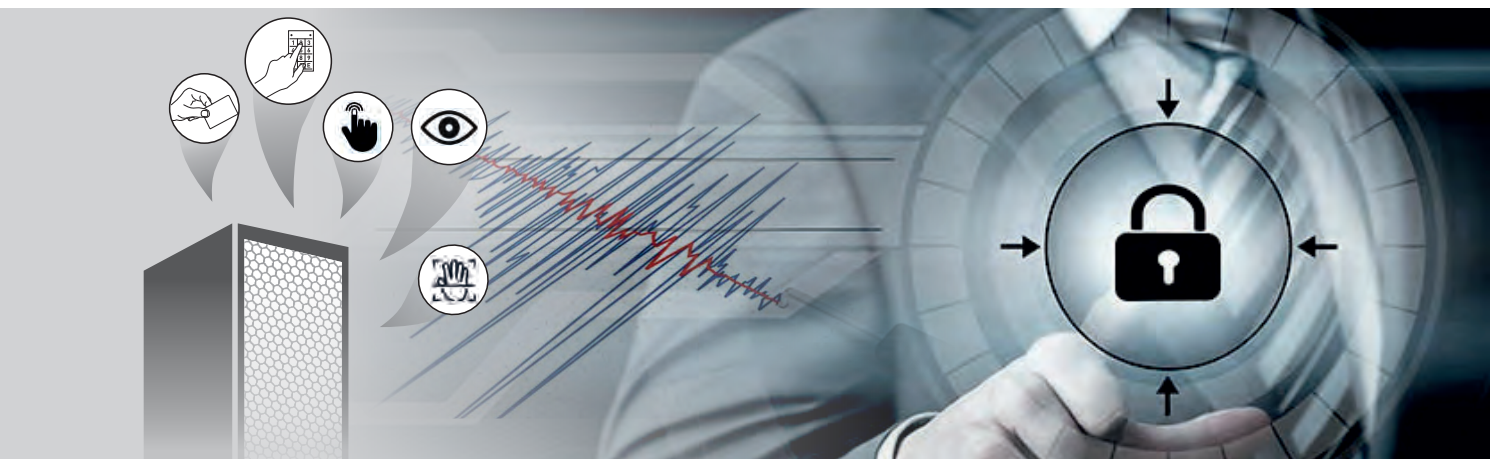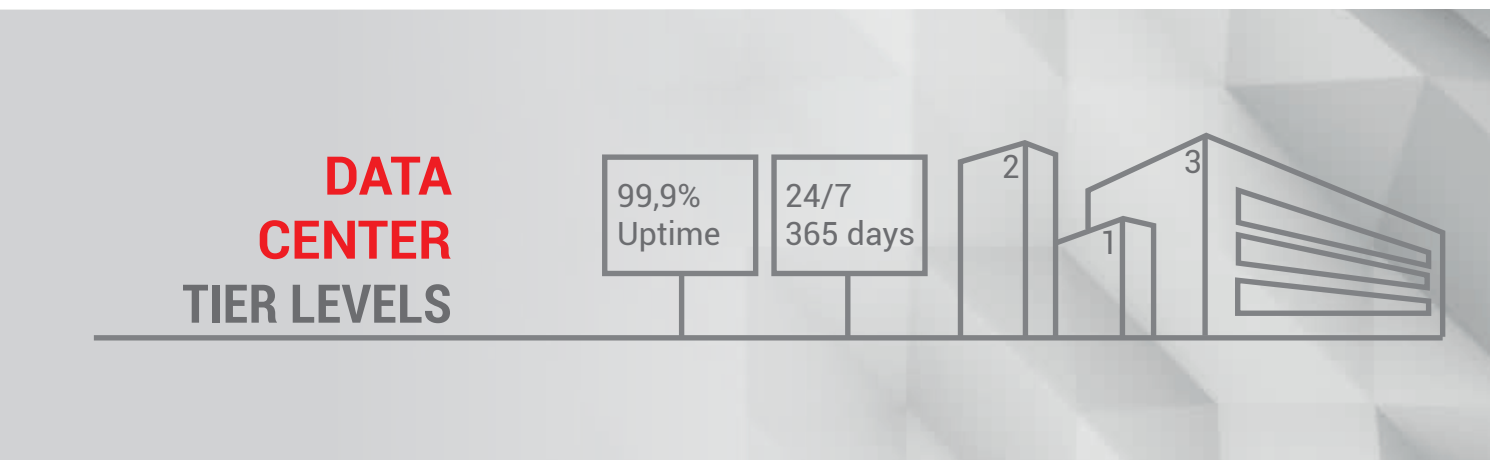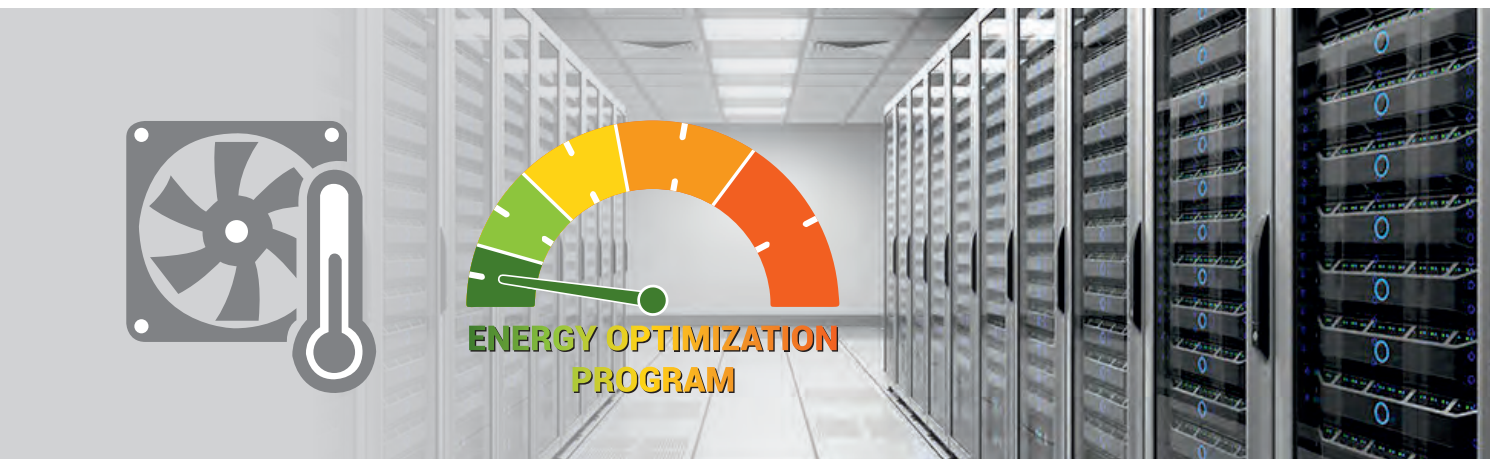
SECURITY

### SECURITY;

Rack, corridor, room, zone and building based physical and environmental security against theft, fire, flood and earthquake shall be maintained and supervised in data center environments. The Colocation & Cloud Computing business models demand customer based physical access to their particular racks and zones while the service provider shall keep the overall operability of the critical IT infrastructure against intrusion. To secure the operational sustainability the IT Power and Digital Infrastructure particular solutions such as Sprinkler Proof Busbars, Tap-Off Boxes with Locking Mechanism and Dual Door (for temperature measurement under load), Seismic Restraint Support Systems, High Fire Resistance, Tin Whisker Protection and Seismic Rack Cabinets with Seismic Stand are from great importance. Customer based physical access against intrusion, mechanical and electro-mechanical locking, keypad access, proximity card access, finger print, eye retina or hand geometry biometric access solutions shall be among the choices of the end-customers.

ENERGY OPTIMIZATION
PROGRAM

**DATA
CENTER**
TIER LEVELS

99,9%
Uptime

24/7
365 days

2

3

1

# DATA CENTER SOLUTIONS
Busbar Power Distribution Systems

**EAE**
ELEKTRİK

## Air Segregated Busbar Power Distribution System 160A...800A
The E-Line KO Series is a medium power range busbar system providing a highly flexible solution for the white space of the data centers to distribute power and feed the Rack Cabinets with the required power budgets.

**ELINE**
**KO-II**
**BUSBAR**

Thanks to their design, E-Line KO busbars are able to accommodate high density tap-off points thus various tap-off boxes can be deployed at every 50 cm. along the both sides of the busbar resulting with a tap-off point at every 25 cm. distance. The E-Line KO Busbars can be used in horizontal or vertical applications. Versatile Tap off box solutions comprising metal and plastic boxes for small currents with particular locking mechanisms, can easily be customized and equipped with different setups of MCBs, SPDs, RCCBs, Power Meters, Energy Analyzers and Current Transformers for electrical protection, energy monitoring and management.

**Features:**
• Modular structure
• Plug-in tap off points at every 25 cm.
• Aluminium or copper conductors
• 4, 4,5 or 5 conductors
• Tin plated conductors with tin whisker free contacts
• Dust cover on outlet points
• Halogen free material
• IP 55 protection class
• Single shear head bolt joint
• Compact Tap-off Boxes up to 80A
• Metal Tap-Off Boxes up to 400A

**Applications:**
• Data Centers - White Space Area
• Data Centers - Medium Range Power Distribution Areas with High Density Tap-Off Points
• Other - Medium-sized buildings or industrial facilities

## DATA TAP-OFF Boxes; upto 400A
To feed the Rack Cabinets with the required power budgets and monitor the energy consumption. EAE offers a wide range Tap-Off Boxes composed of metal and plastic cases.

# DATA CENTER SOLUTIONS
## Busbar Power Distribution Systems

**EAE**
E L E K T R İ K

### Air Segregated Busbar Power Distribution System 100A-160A-225A

The E-Line MK Series small power range busbar systems are flexible and cost-effective solutions for the distribution of electrical power in data center white spaces for lower energy requirements.

**ELINE**
**MK**
**BUSBAR**

Tap-off points at every 50 cm. on both sides can be deployed resulting with a tap-off point in each 25 cm. distance. The E-Line MK Busbars can be used in horizontal or vertical applications.Versatile Tap off box solutions comprising metal and plastic boxes rated up to 80A can easily be customized for electrical protection and energy metering.

**Features:**
- Modular structure
- Plug-in tap off outlets at every 25 cm. on both side
- Tin plated aluminium or copper conductors with tin whisker free contacts
- 4 or 5 conductors
- Hinged and lockable dust cover on outlet points
- Halogen free material
- Installation without using a torque wrench (shearhead bolts)
- IP 55 protection class
- Compact Tap-off Boxes up to 80A

**Applications:**
- Data Centers - White Space Area
- Data Centers - Low Range Power Distribution Areas with High Density Tap-Off Points
- Other - Small-sized buildings or industrial facilities

### DATA TAP-OFF Boxes; upto 400A

Customized tap-off boxes provide an independent setup for choosing a variety of electrical equipment to be installed regardless of the brand. Energy Metering over RJ-45 connections using structured cabling is one of the value-added features of the EAE Tap-Off boxes for the real-time monitoring of energy consumption and other critical power parameters in your data centers to monitor and drive your IT infrastructure efficiently.

**Features:**
- Plastic or Metal
- IP 55 protection class
- Compact Tap-off Boxes up to 80A
- Aluminium Tap-Off Boxes up to 125A
- Sheet metal Tap-Off Boxes up to 400A
- RJ-45 Connectivity

- Energy Monitoring and Management Customization with
  - Main/Molded Case/Residual Circuit Breakers
  - NH Fuses
  - Surge Protection Devices
  - Power Meters with Current Transformers
  - Energy Analyzers

# DATA CENTER SOLUTIONS

Busbar Power Distribution Systems



## Data Center Busbar Distribution Systems 160A...1000A

To power the mission critical IT infrastructures on the Data Rack Cabinets, EAE offers a highly flexible and reliable Busbar System to meet the "Scalability" challenge in the Data Centers finding the way to Moves, Adds and Changes (MACs).

**ELINE**
**KD**
**DATA RACK BUSBAR**
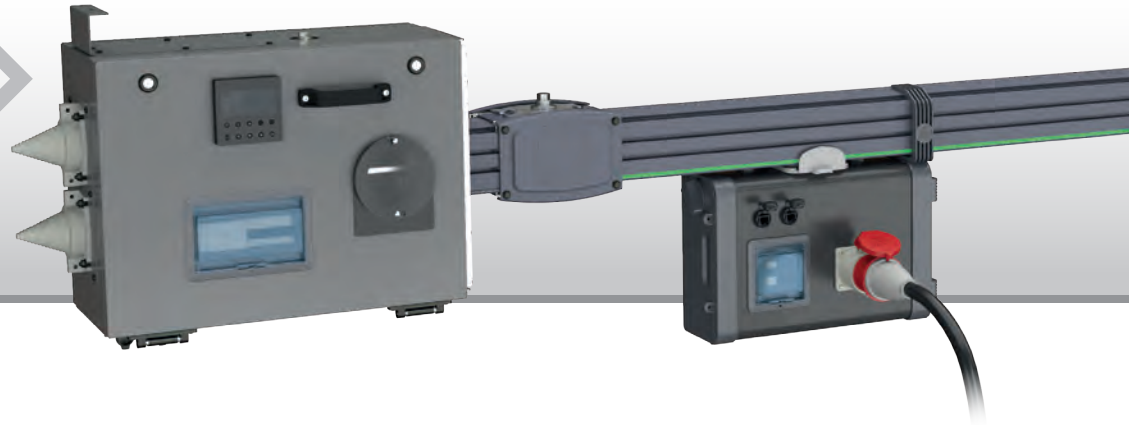


To power the mission critical IT infrastructures, EAE offers a highly flexible Busbar Systems for reliable and energy efficient operations in your Healthcare System's Data Centers.

### Features:
- Plug-in-play anywhere along the bar
- Protected Tap-off contacts
- Aluminium or copper conductors
- 4,5 or 6 conductors
- Tin plated aluminium or copper conductors
- Safe aligment mechanism ensures correct installation and operation
- Special interlock mechanism enabling to carry the weight of the plug-in box and cables bt the busbar housing
- IP 23D protection level

### Applications:
- Data Centers - White Space
- Data Centers - High Density Distribution Points and Mid-Range Power Distribution Areas with "Infinite Flexibility"
- Other - Medium sized buildings and industrial facilities

## DATA TAP-OFF Boxes Upto 125A;



KD Plug-in 125A Tap-Off Boxes made of aluminum case with Safe Locking Mechanism enables Customization with vendor neutral components for different setups of MCB, SPD, RCCB, Power Meters Energy Analyzers and Current Transformers etc.

# DATA CENTER SOLUTIONS
## Busbar Power Distribution Systems



### Compact Busbar Power Distribution System 400A...7500A

The E-Line KX Series is the ultimate solution for high power range compact busbar systems to distribute power from the main transformer stations, generator sets and various high power sources through main distribution lines to the LV Switchgear in the data center power infrastructure.

**ELINE
KX
BUSBAR**
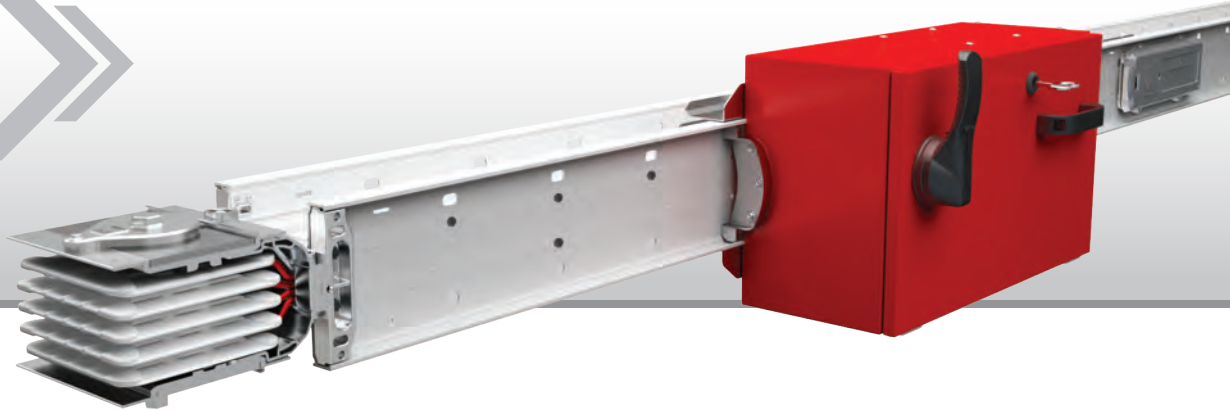
With ratings from 400A to 7500A composed of high conductivity copper and aluminum conductors, the sandwich construction combines insulated conductors in an aluminum housing. Due to its compact design, the EAE E-Line KX Series Busbar System can also be utilized for the data center white space power distribution to leverage the space utilization and heat dissipation. The wide range Tap-Off box choices with customization also applies to the EAE E-Line KX Series.

**Features:**
- Modular structure
- Plug-in tap off points at every 60 cm.
- Aluminium or copper conductors
- 3; 4; 4,5; 5 or 6 conductors
- Tin or silver plated conductors with tin whisker free contacts
- Epoxy Insulation
- Dust cover on outlet points
- Halogen free material
- IP55, IP65, IP67 protection class
- Seismic compliance
- Single bolt joint
- Sheet metal Tap-Off Boxes up to 630A (Plug-in) 1200A (Bolt-On)
- GreenGuard Gold and CPR B1ca, s1, d0 certifications

**Applications:**
- Data Centers - White Space Area
- Data Centers - High to Medium Range Power Distribution Areas
- Other - High to Medium sized buildings or industrial facilities
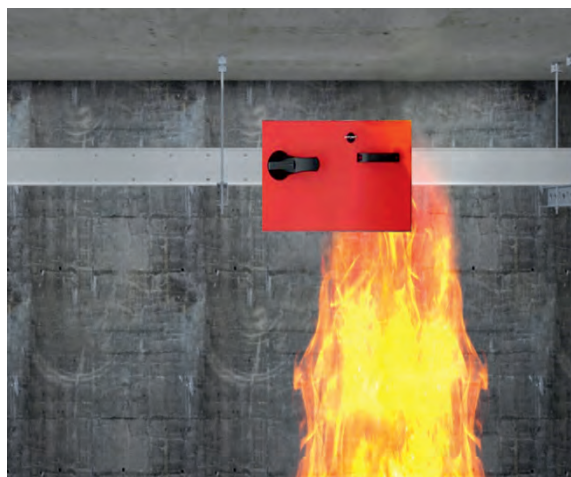


### Fire Certificate

**KX Series Busbar**
IEC 60331-1 and IEC 60331-21; **1000 °C - 3** Hours
IEC 60331-1; 830 °C − 3 Hours
BS 6387; 950 °C − 3 Hours
BS 8491; 830 ˚C, 120 minutes + Pressurized Water + Mechanical Impact

**Plug-in Tap Off Box**
IEC 60331-1; **830 °C − 3** Hours,
Magnetic MCCB
IEC 60331-1; 830 °C − 3 Hours,
NH Circuit Breakers

# DATA CENTER SOLUTIONS
## Busbar Power Distribution Systems

### Compact Outdoor Busbar Power Distribution System 600A...6300A

The E-Line CCR Series is a specific solution for outdoor high power range compact busbar systems to distribute power from the main transformer stations, from generator sets and various high power sources in outdoor environments for the data center power infrastructure.

**ELINE CCR BUSBAR** ≫
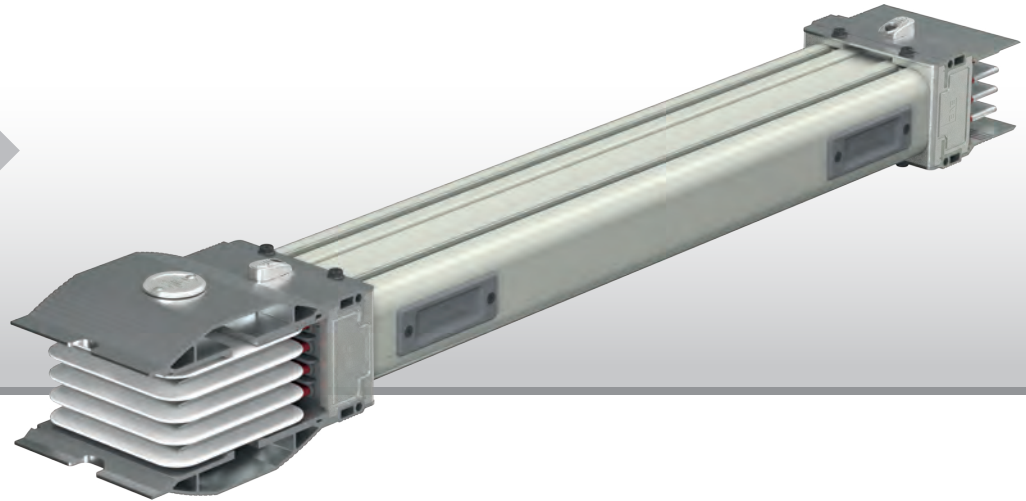
With ratings from 600A to 6300A, composed of high conductivity copper or aluminum conductors, the body of the E-Line CCR busbar is formed using DURACOMP, a composite material of epoxy resin and pure silicon protection, inserted into an Aluminium housing to ensure IP68 ratings against arduous environments with high fault level endurance, good fire ratings and resistance to moisture.

**Features:**
• Protection degree IP68
• Protects against corrosion
• Protects against chemicals
• Resist insects and rodents
• Suitable for tropical climates
• Resistant to fire propagation
• Electrical continuity during fire
• Protects against chimney effects
• High mechanical strength
• Single bolt joint
• Low voltage drop
• High short circuit withstand
• Suitable to connect with E-Line KX busway systems

**Applications:**
• Data Centers - High Range Outdoor Power Distribution Areas
• Other - Big Scale buildings or industrial facilities Outdoor Power Distribution

**Advantages:**
• Lighter
• Easier mechanical support
• Reusable
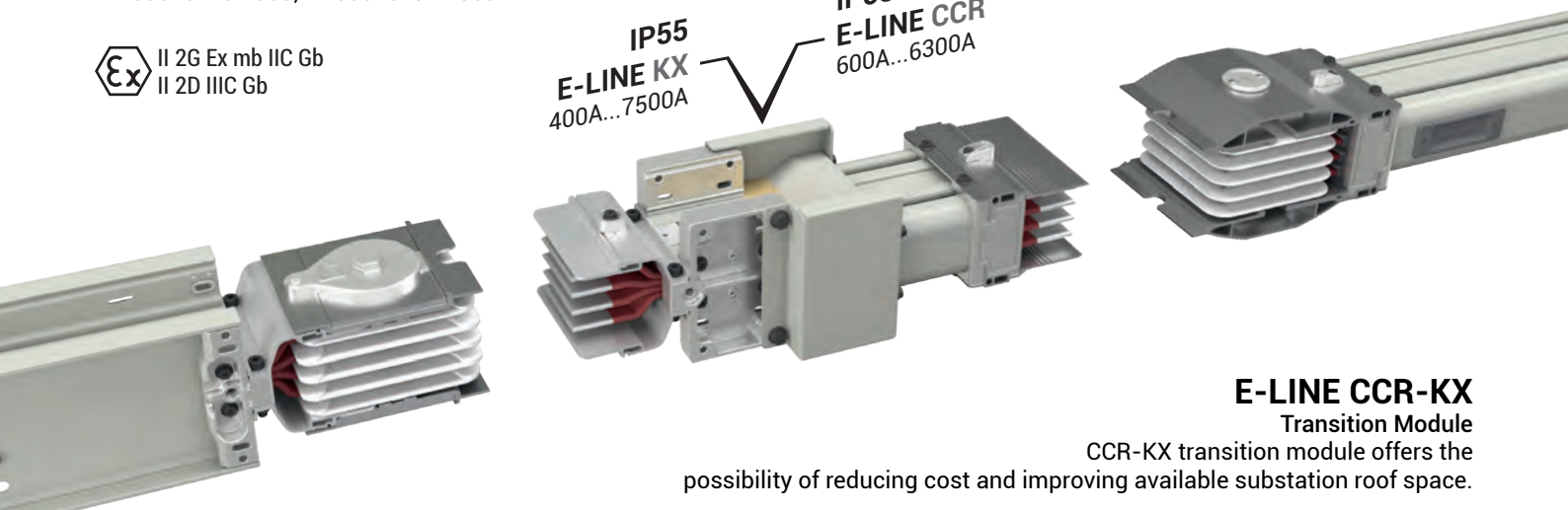• Quicker installation time
• Paint options (Special RAL Codes)

### EX - Protected
▶▶ ATEX as per EN 60079-0:2009,
EN 60079-18:2009, EN60079-31:2009

Ex II 2G Ex mb IIC Gb
Ex II 2D IIIC Gb
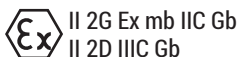
**IP55 E-LINE KX** 400A...7500A

**IP68 E-LINE CCR** 600A...6300A

## E-LINE CCR-KX
**Transition Module**
CCR-KX transition module offers the possibility of reducing cost and improving available substation roof space.

# DATA CENTER SOLUTIONS
## Busbar Power Distribution Systems

**EAE**
ELEKTRİK

### Medium Voltage Busbar System 12kV/24kV 950A...5700A

The E-Line MV Series Busbar Systems, as the newest addition to the busbar product range, is offered with 12 kV and 24 kV variants. It offers safe and efficient power transmission. MV CR is manufactured in a single body with Al or Cu conductors embedded in DURACOMP insulation which is a composite material of epoxy and pure silicon.

ELINE
**MV**
BUSBAR
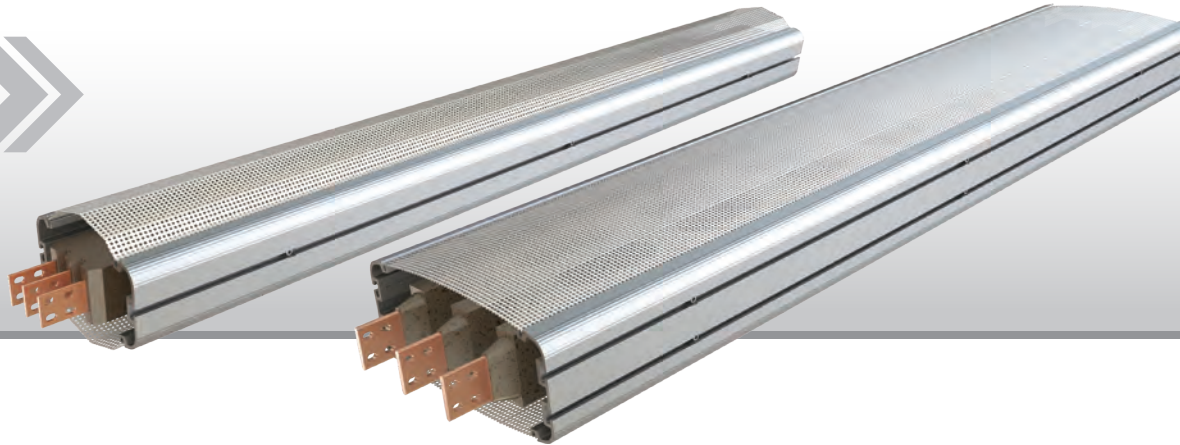
**Features:**
• Products tested in accordance with the international standards
• Outdoor IP 68 level protection
• Corrosion-resistant
• Chemical-resistant
• Pest-resistant
• Usable in tropical environments
• High mechanical strength
• Without stack effect
• Highly resistant to short circuit
• Ensures less voltage drop in comparison with cabled systems
• UV-resistant
• No requirement for maintenance
• High short circuit resistance due to compact structure
• Special design to occupy minimum space based on the running amperage rank

**Applications:**
• Outdoors
• Industrial buildings
• Petrochemical Industry
• Areas with flood risk
• Oil and natural gas Industry
• Power Generation Industry
• Data centers
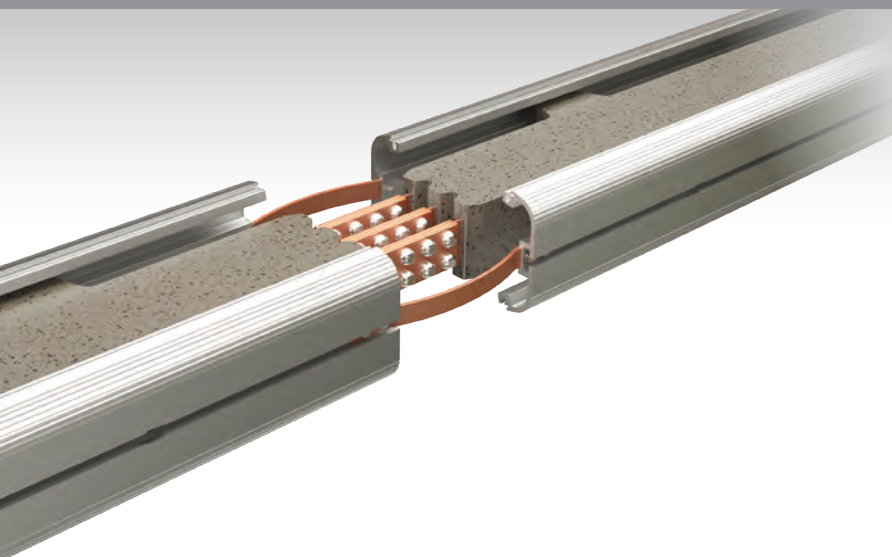
### CURRENT RATINGS

▶▶ **For 12kV Copper Conductors:**

950A / 1150A / 1350A / 1650A / 2250A / 2750A

▶▶ **For 24kV Aluminium Conductors:**

1500A / 2000A / 2500A / 3000A

▶▶ **For 24kV Copper Conductors:**

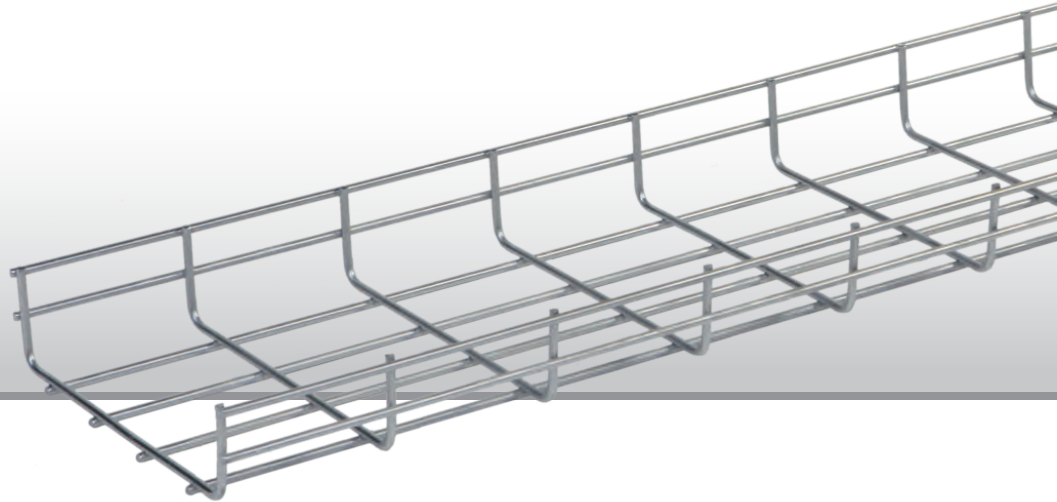1800A / 2100A / 3200A / 4000A / 5000A / 5700A

# DATA CENTER SOLUTIONS

Cable Tray Systems

## Wire Mesh Cable Trays

E-Line TLS Series wire mesh cable trays allow high density cabling with a flexibility for Moves-Adds-Changes in the data center environments.

**ELINE
TLS** »

Stainless steel or electro-galvanized wire mesh tray with painted option helps to eliminate the tin whisker problems and provides color coding in the cable pathways. The cage structure and feature rich accessories of the E-line TLS cable trays makes it simple for modular expansion and easy access in-between the cable pathways.

**Features:**
- Wires of 4-5 mm. of diameter to form the cable tray
- In 3000 mm. standard lengths
- Produced as electrogalvanized, stainless steel and also as painted
- H35, H55 and H100 mm.
- W50……W600 mm.
- Flexible application with feature rich accessories
- Fire resistant

**Applications:**
- Data Centers - White Space Overhead Data Cabling
- Data Centers - White Space Raised Floor applications
- Other - Food Industry, Oil&Gas Industry

# DATA CENTER SOLUTIONS

Cable Tray Systems



EAE
ELEKTRİK

## Pregalvanized Cable Tray Systems

E-Line UKFC Series cable trays are aimed to build-up a general purpose cabling infrastructure in data center environments.

**ELINE UKFC** »

The UKFC cable tray system ensures fast and easy mounting with interlocking mechanism by means of M6 bolts set eliminating the need for additional fittings. Pregalvanized tray with painted option helps to get rid of the tin whisker problems and provides color coding in the cable pathways.

**Features:**
- In 3050 mm. standard lengths
- Fire resistant (90 min.)
- H40, H50 and H60 mm.
- W100....W600 mm.
- Pregalvanize and also as painted
- Feature rich accessories

**Applications:**
- Data Centers - White Space Overhead Power Cabling
- Data Centers - White Space Raised Floor applications
- Other - Buildings, Industrial Facilities

① 

② 

③
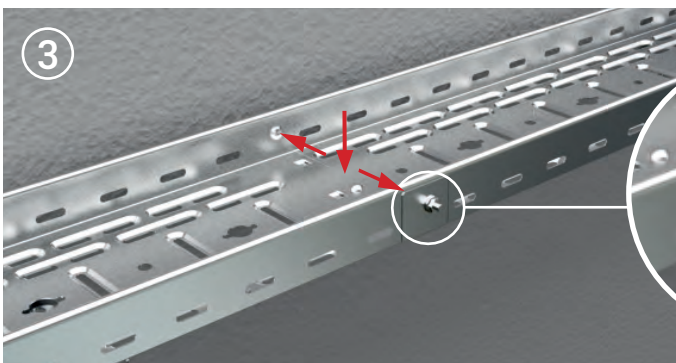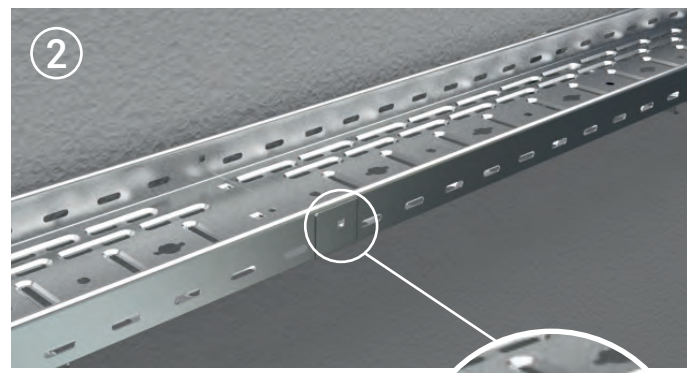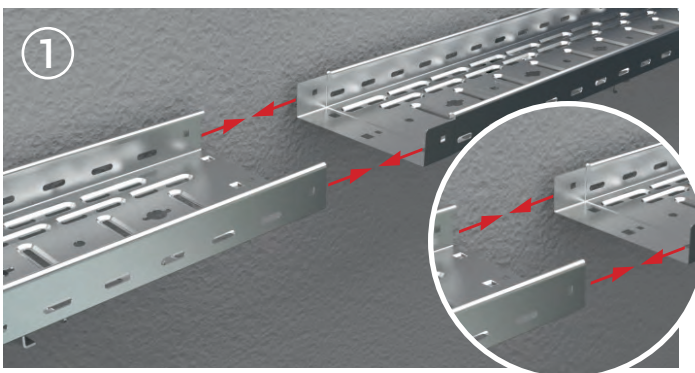
# DATA CENTER SOLUTIONS
Cable Tray Systems



## Universal Cable Ladder Systems

E-Line UMK Series cable ladders are suitable to route high density data cabling in-between the cabinet rows in data center environments.

**ELINE UMK**

The UMK cable ladder system can also be used in general applications with its special design of ladder windows preventing cables from being cut or stripped off accidentally. Pregalvanized cable ladder with painted option helps to eliminate tin whisker problems and provides color coding in the cable pathways.

**Features:**
• In 3000 mm. standard lengths
• Fire resistant
• H60 mm.
• W100....W400 mm.
• Pregalvanize and also as painted
• Many accessories

**Applications:**
• Data Centers - White Space Overhead Cabling
• Data Centers - White Space Raised Floor applications
• Other - Buildings, Industrial Facilities

# DATA CENTER SOLUTIONS
## Support Systems



### Heavy Duty and Seismic Support Systems
For the cable trays, cable ladders and seismic restraint solutions of electrical and mechanical equipments, E-Line BR, E-Line A-A and E-Line Seismic support systems provide a sustainable solution for standard and heavy duty applications.

ELINE
# A-A, BR
# SEISMIC
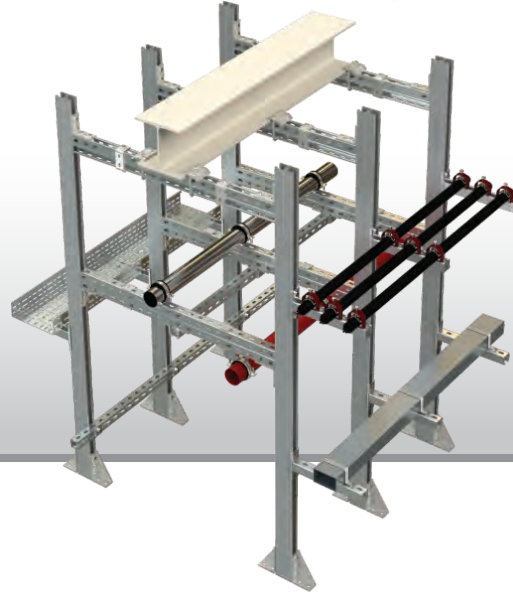
To ensure corrosion resistance and minimize the tin whisker problems, the support systems are manufactured as pregalvanized and hot dip galvanized with electrogalvanized and/or painted accessories
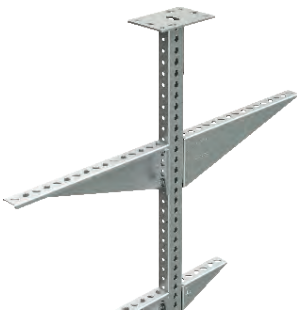
## A-A
**Hot Dip Galvanized (TS EN ISO 1461), Fire Resistant (E30-E90)**
E-Line A-A series of support systems are designed for heavy duty loads.
The A-A series can be produced from 2.0mm upto 4 mm. as hot dip galvanized. With its special coating it can withstand to 400 hours salt test and it is fire resistant.
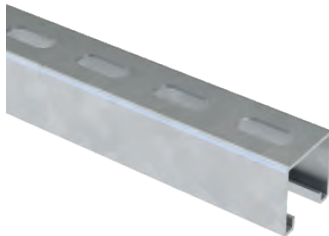
## BINRAK CHANNEL (41x41mm.)
**Pregalvanized (TS EN 10346 - TS EN 10143) and Hot Dip Galvanized (TS EN ISO 1461)**
E-Line BINRAK series are a support system especially designed for heavy duty loads.
The BINRAK series can be produced with 2.0mm and 2.5mm thickness as pregalvanized and hot dip galvanized

## SEISMIC
**Hot Dip Galvanized (TS EN ISO 1461)**
E-Line Seismic bracing assembly systems are designed to secure the support systems sustainability against seismic waves with lateral and longitudinal applications withstanding the push and pulling forces. The assemblies are produced as hot dip galvanized with electrogalvanized accessories.

# DATA CENTER SOLUTIONS

## Rack Cabinet Systems

**EAE**
ELEKTROTEKNİK

**KD Series**

## General Specifications

### CONFIGURATION FLEXIBLITY
Wide range of dimensions, send as assembled. Wide range of poroducts for cable management and airflow manegement.

### ROBUST FRAMEWORK
Rigid framework made of steel with 1500kg loading capacity.

### HIGH CORROSION RESISTAMCE
All parts made of galvanized sheet steel, electrostatic powder painted for superior corrosion protection.

### STANDART COLOURS
RAL 9003 WHITE
RAL 9005 BLACK
Please contact for other alternatives.

RAL 9005 Black          RAL 9003 White

### EARTHING
Earthing terminal bracket is the bonding point of the rack to the Common Bonding Network (CBN).
Earthing continuity is provided between front door, rear door, side panels and all interior parts.

### RACK BAYING KIT
• Racks can be bayed with or without side panel fitted on.
• 4 pcs baying brackets per side (front and rear) are used.
• The baying kit does not interfere with installation plane in the cabinet interior.
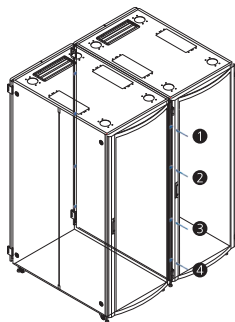
### LEVELLING FEET
• Levelling feet allow adjustment on uneven floors.
• Completely metal material.
• Loading capacity 500kg per foot.
• Levelling feet is adjustable from outside and inside the rack easily at each corner.

M12

min - 85 mm / max - 100 mm

Ø 30 mm
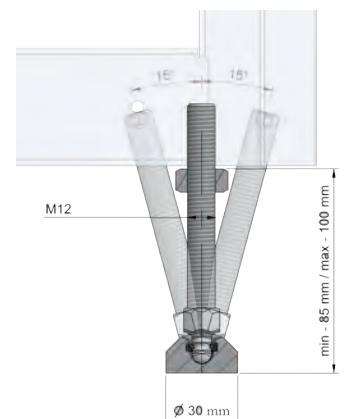
### True Dimensions
• Exact dimensions.
• Depth: Excluding front and rear doors.
• Width: including side panels.

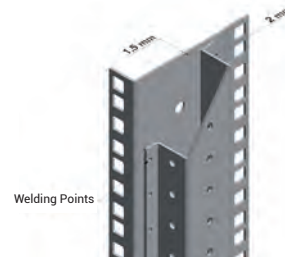# DATA CENTER SOLUTIONS

Rack Cabinet Systems

## KabinPLUS

**19 INCH EIA PROFILES**
• 4 pcs profiles on standard configuration.
• Material: 2+1,5mm pre-galvanised sheet metal, painted and U marked.
• Load carrying capacity 1500 kg.
• Additional 12U Zero-U mounting area option.



Welding Points

• No side profiles ensures max. area for cable management.
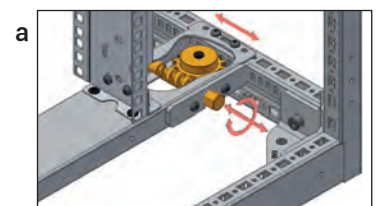• Rack Unit Identification markings - Standard on mounting profiles as reverse colour.
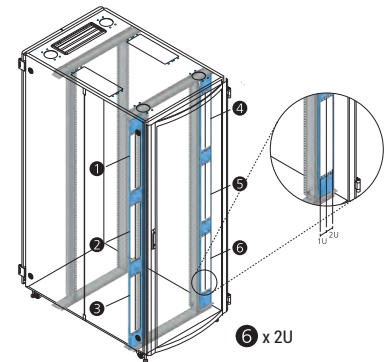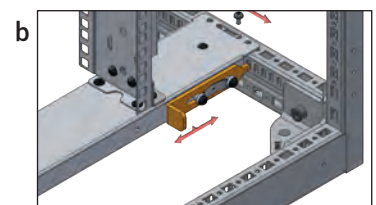


• Zero-U mounting

**CASTORS**
• Standart castor set for transportation.
• Heavy duty option castor sets, 500kg/castor
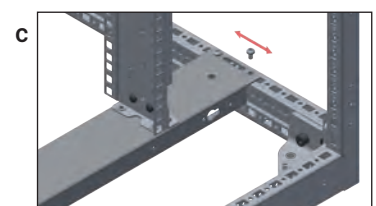• 1500 kg dynamic loading capacity according to UL 1678



360°
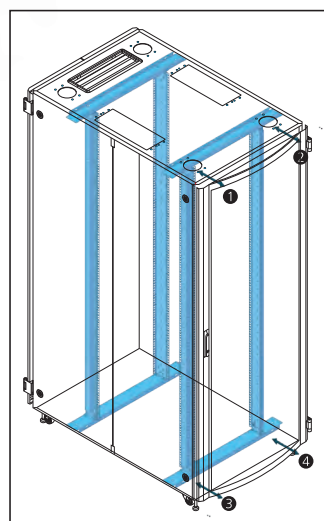
Precise depth adjustment on mounting rails.

**a-** adjustable with worm screw (Archimedes screw)

**b-** adjustable with toolless rod

**c-** standard configuration, fixed with screws, adjustable

# DATA CENTER SOLUTIONS
Rack Cabinet Systems

**EAE**
ELEKTROTEKNİK

## Doors and Covers

**KD Series**

**FRONT AND REAR DOORS**
• 85% perforation rate enables more air flow. (DIN 24041)
• IP20 protection degree - finger proof - Ø12,5mm.
• Single and double opening door options.

t = 13
w = 12
1 mm

1:1  DIN 24041

**180° DOOR OPENING ANGLE**
• More available work space in corridor thanks to the 180° door opening angle.
• Even racks bayed together, doors can open up to 180°.

**EASY REMOVE DOOR DESIGN**
• Toolless removable.
• Easy to reverse.
• Detachable earthing wire.

**LOCKING OPTIONS**
• Suitable to all brands locking handles.
• Dedicated cable through for handle cables.
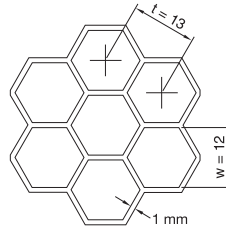• Single point and 4 point locking options for single opening door.

4 point locking system
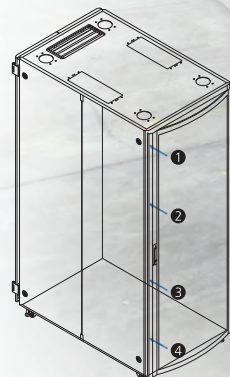
**SEISMIC PLATFORM**
• Strenghts the rack connection to the floor.
• Flattens uneven surfaces.
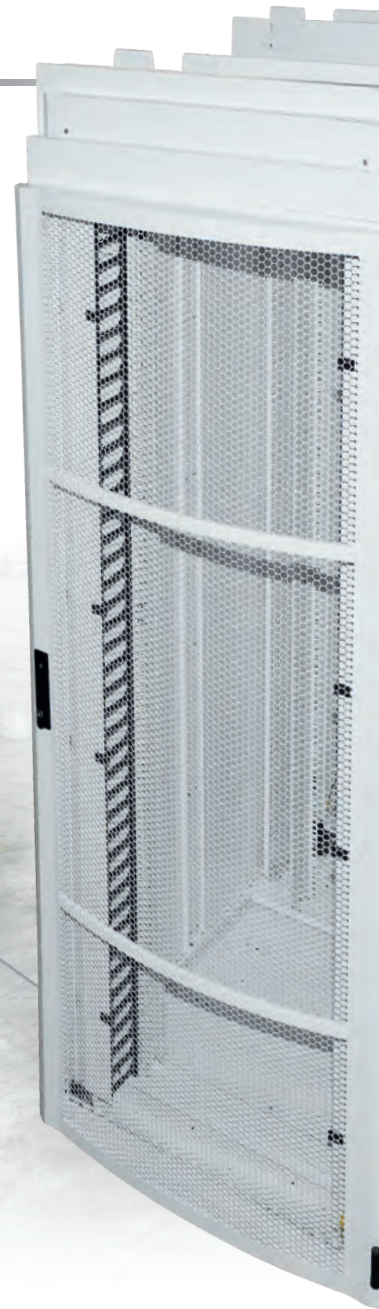• Tested and Certified to Zone 4 durability.

**BOTTOM COVER**
• With its modular design, it may not be used at all to provide access directly under the floor.
• The hot or cold aisle can be used partially at the front or rear to make the air flow efficient.
• It can be completely closed to prevent dust ingress or to provide full airflow control.
• Thanks to their compact structure and being designed to be completely below the assembly plane, the bottom covers can be removed or installed later in the field when the rack is empty.
• It is possible to enter data and energy cables from the side, front-bottom or rear-bottom side of the rack from the bottom cover.
• There are various pre-opened (knock-out) cable entries on the covers.
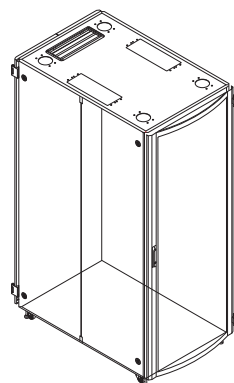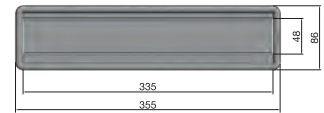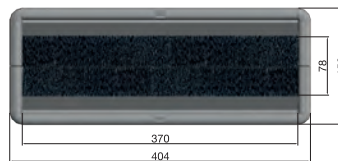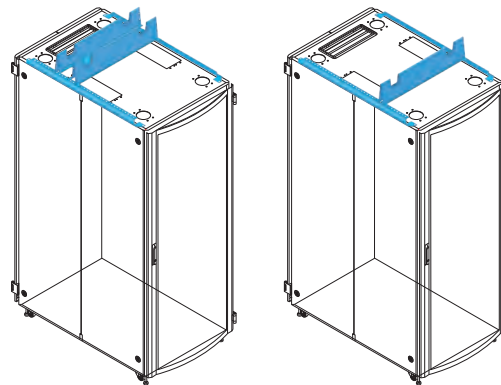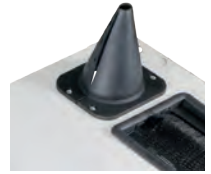
# DATA CENTER SOLUTIONS
Rack Cabinet Systems



**KabinPLUS**

## TOP COVERS
• There are various pre-opened (knock-out) cable entries.
• Cable entry module options for cable entry holes.
• Air flow management options on the top chassis and covers.
• Cable management options on the top chassis and covers.



## CABLE ENTRY MODULES
• Two different sizes.
• There is a plastic frame not to harm the cables.
• Aesthetical view.

## SIDE PANELS
• Different types of side panels for different needs; Fixed, Lockable, with Transitions.
• Racks can be combined with their side panels on them. The presence or absence of the side panels and the type selected do not affect the assembly of the racks side by side.
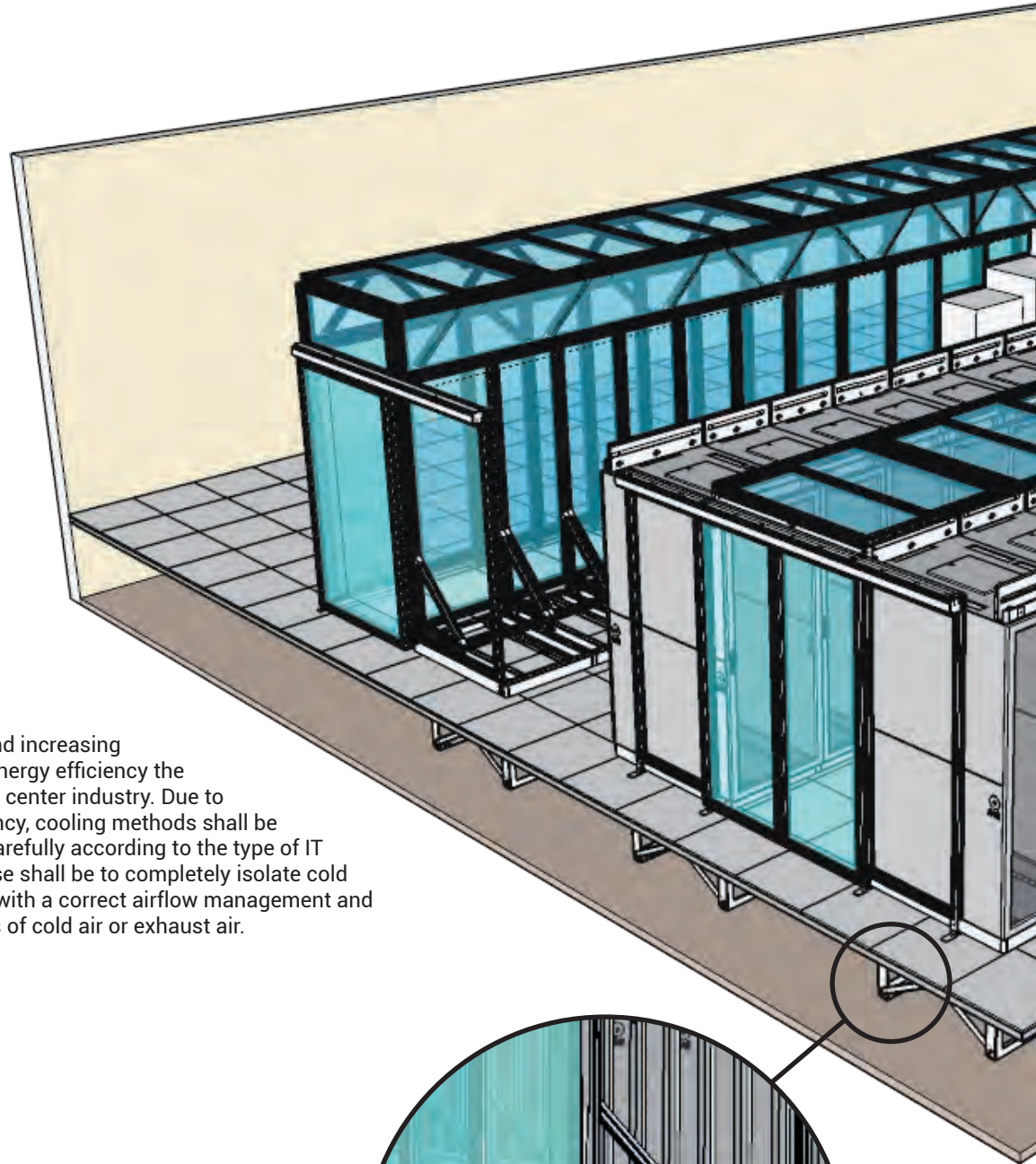• The side panel design keeps earthing continuity.
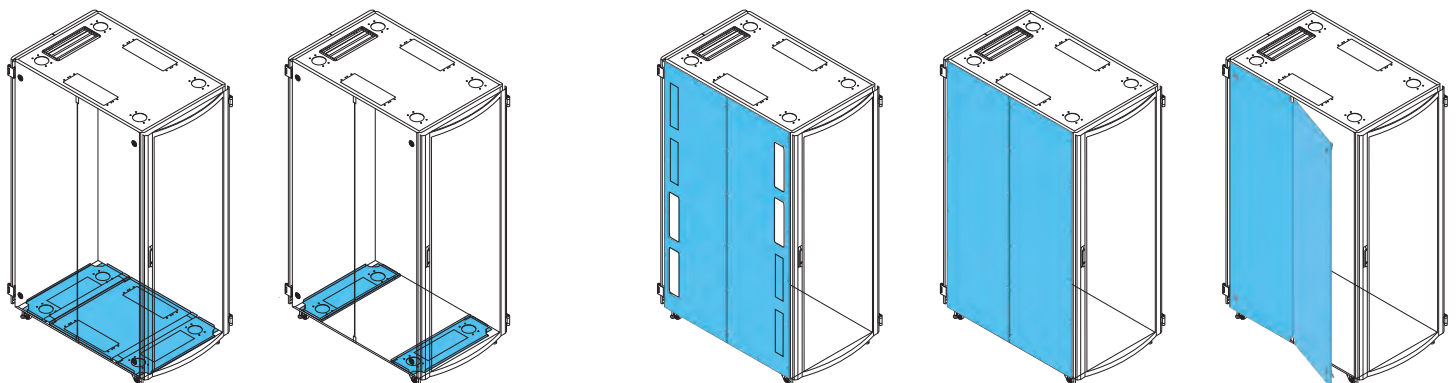
# DATA CENTER SOLUTIONS
Rack Cabinet Systems



## Aisle Containment Solutions

To increase the "Energy Efficiency" and manage the "Physical Security & Access Control" in data center environments, KabinPLUS offers Data Center Aisle&Containment Solutions.

## Energy Efficiency

The accelerated rise of energy consumption in data centers and increasing global energy costs make the energy efficiency the permanent hot topic in the data center industry. Due to its big impact on energy efficiency, cooling methods shall be considered and implemented carefully according to the type of IT infrastructure. The main purpose shall be to completely isolate cold cooling air and hot exhaust air with a correct airflow management and applying containment solutions of cold air or exhaust air.

## Applications

Reduce Energy Consumption
• Improve Airflow
• Secure Physical Access
• Dedicated Containment
• Separate Cold and Hot Air
• Improve Overall Hardware
  Equipment Efficiency
• Space Management for
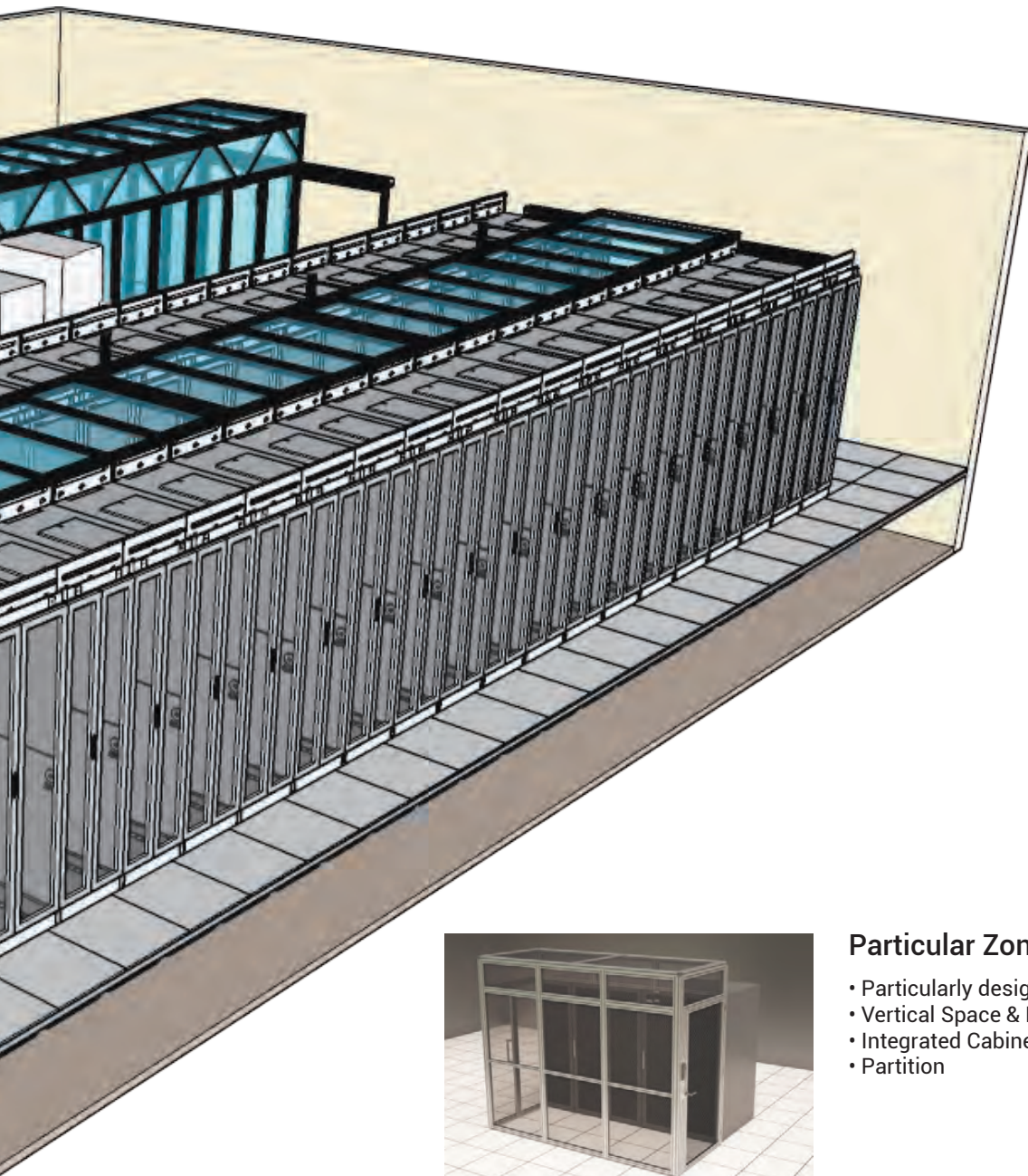  Non-Standard Rows
• Room & Space & Cabinets
  Zoning
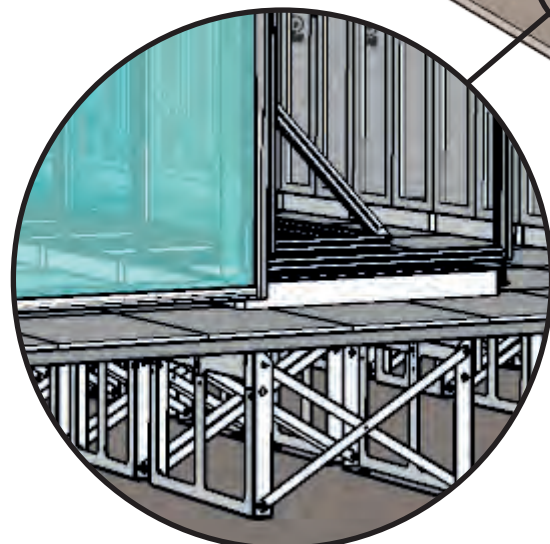
# DATA CENTER SOLUTIONS
## Rack Cabinet Systems

## Physical Security & Access Control

Rack Cabinet, corridor, room, zone and building based physical
and environmental security against theft, fire, flood and earthquake shall be maintained and the access to the related zones shall
be supervised in data center environments.

### Particular Zoning Solutions

• Particularly designed frames;
• Vertical Space & Room Zoning
• Integrated Cabinet Zoning
• Partition

### Integrated Physical Security

• Integrated Physcial Security;
• Sliding and folding doors designed to enable physical
  security for a certain zone of cabinets
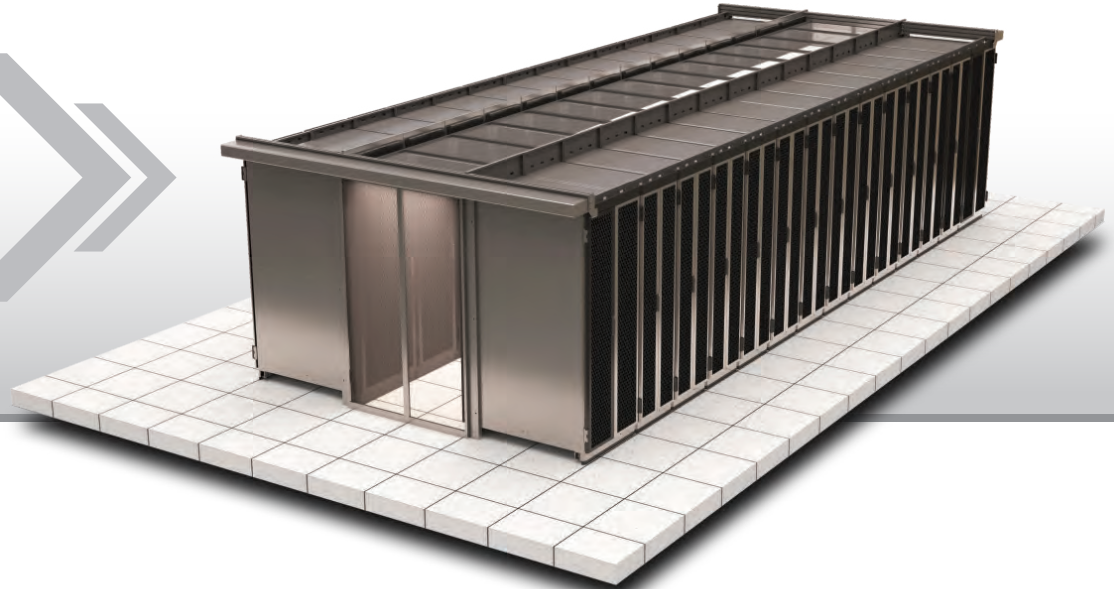
# DATA CENTER SOLUTIONS

Rack Cabinet Systems

## Aisle Containment Solution - Cold Aisle

Cold Aisle Containment for rack cabinets with single or double sliding doors and sliding roof frame units made of aluminum with polycarbonate panel material and fire nozzle entry sections.
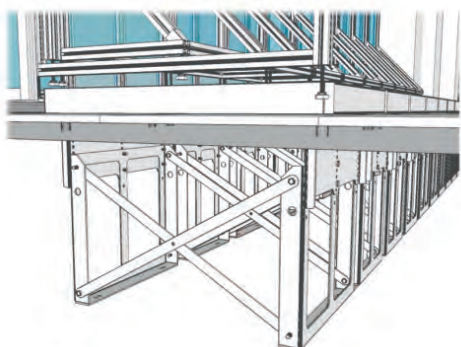
**KabinPLUS**
**Cold**
**Aisle**

Thanks to the specially designed fixing and flexible plastic isolation elements, the hot aisle chimney can easily be levelled and installed on top of the cabinets ensuring a flexible containment and airflow separation.
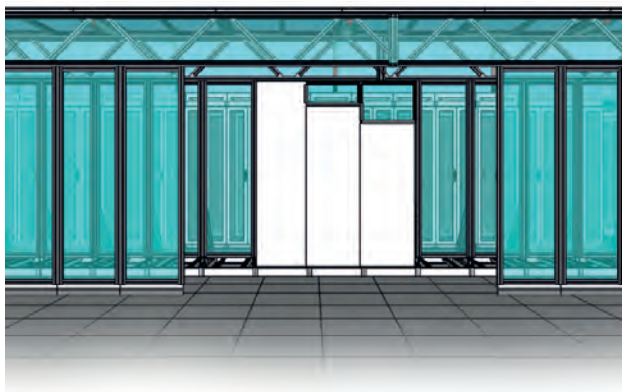
## Non-Standart Cabinets Containment

Adjustable to various cabinet heights and widths, dummy elements can be deployed to unused cabinet spaces for partition ensuring flexibility and modularity for future growth as well as for the existing
non-standard sized rack cabinets&server hardware. Specially designed seismic stands are applied below the raised floor together with the dummy aluminium&polycarbonate frames adjustable to different heights to accommodate non-standard rack cabinets in different dimensions.

## Seismic Stand

Seismic stands ensure an independent platform from day 1 for the existing and future rack cabinet installations as well as for non-standard cabinet rows.

# DATA CENTER SOLUTIONS

Rack Cabinet Systems

## Aisle Containment Solution - Hot Aisle

To ensure hot and cold air insulation to increase energy efficiency in suspended ceiling data center environments, an open chimney system to form the "Hot Aisle" made of aluminum frames with polycarbonate material is utilised where the hot air is directed to the plenum area.

## KabinPLUS
# Hot
## Aisle
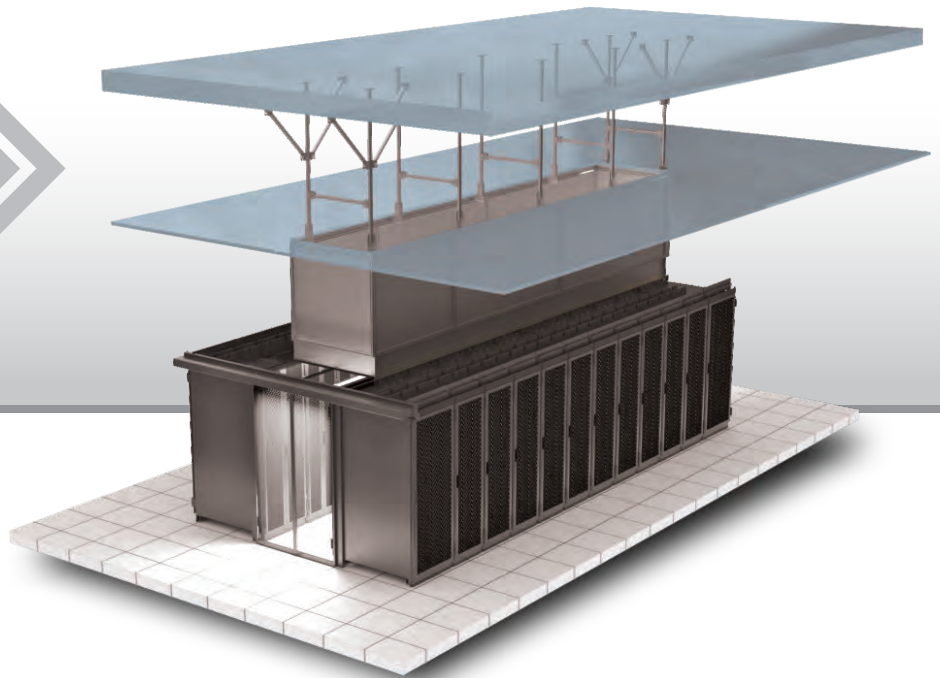
Thanks to the specially designed fixing and flexible plastic isolation elements, the hot aisle chimney can easily be levelled and installed on top of the cabinets ensuring a flexible containment and airflow separation.

## INFINO MULTILENS
## Surface Mount Linear Tracking System LED Luminaire
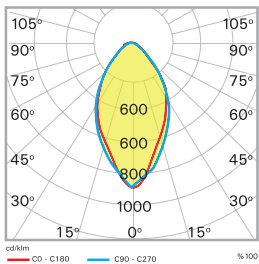
- Housing : Aluminium Extrusion
- Operation Temperature: -20˚/+55˚C
- Light Source: Mid Power LED
- Correlated Light Colors: 4000K (3000-5700-6500K optional)
- Optical Degree Options: 60˚ Lens (Asimetric – Double Asimetric 30˚/90˚ - 60˚ optional)
- Light Efficacy: 142.8 lm/W
- Operation Voltage: 220-240V AC, 50/60Hz
- Power Consumption: 44.1W

CE    IP20    IK02    + 55°C / - 20°C    60° / 60°
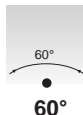
# DATA CENTER SOLUTIONS
Data Center References

**EAE**

# DATA CENTER
## References List

- @Home, Groningen
- Abu Dhabi Judiciary Department Data Center, Abu Dhabi
- Accelerated, Frankfurt
- Adalet Bankalığı IT Center, Istanbul
- ADJD PI Research Center, Abu Dhabi
- Airbus A29, Colomiers
- AIS SILA, Thailand
- Akbank Sabancı Center, Istanbul
- Alcatel Lucent Data Center, Istanbul
- Al Rumaıh Data Center, Ksa
- Ancotel, Frankfurt
- Antares Bailly, Romainvilliers
- Aselsan IT Center, Ankara
- Asko Data Center, Oslo
- Astra Zeneca, Cambridge
- AXA Berchem
- Bahnhof AB Data Center, Stockholm
- Banco di Desio, Seriate
- Bank of America,Chennai
- BASE Aartselaar
- Basefarm, Oslo
- BCE GD, Luxembourg
- BNP PARIBAS; Romainvilliers, Bastogne, Vaux sur Sure,
- Borealis Data Center, Reykjavik, Iceland
- Boruce Tach Park,Bangalore
- Brigade Metropolis, Cognizant, Bangalore
- Brigade Tech Park, Bangalore
- British Telecom, LOT1&LOT2, Netherlands
- Cable & Wireless, München
- Calculationcenter RegioPolitie, Amsterdam
- Cap Gemini, Docklands UK
- Ced, RegioneToscana
- CEL Streak Software Park, Bangalore
- Cineca, Bologna
- Centraal Justitieel Incasso Bureau, Leeuwarden
- Cibicom Data Center, Denmark
- Cisco; Brussels, Amsterdam
- CitiBank Global Data Centre, Chennai
- Citibank, Thailand
- Clément Ader, Toulouse
- COLT, Les Ulis
- Computer Gross, Italy
- Crédit Agricole, Chartres

- CSIC Superior Council of Scientific Research, Madrid
- CVI Computercentrum, Utrecht
- Daimler RZ Geb. 11-2, Sindelfingen
- Data4 DC Cornaredo, Milan
- Datacenter Arnhem, Arnhem
- Datacenter BIT, Ede
- Datacenter De Bunker, Kloetinge
- Datacenter Flowtraders, Amsterdam
- Datacenter ITB2 Ecofactorij, Apeldoorn
- Datacenter Main Cubes, Amsterdam Schiphol
- Datacenter Mediapark,  Hilversum
- Datacenter MUC 1, München
- Datacenter National Public Service Broadcasting, Hilversum
- Datacenter of Customs, Tver
- Datacenter Sjöbo Kommun, Sweden
- Datacenter World Stream, Naaldwijk
- Datacloud, Brussels
- Datahouse, Alkmaar
- Dataplace (Proserve), Alblasserdam
- Dataplex, Hungary
- Datazaal Hoofdkantoor RABO, Utrecht
- DC Smart (Van Nelle), Rotterdam
- DC05, Marcoussis
- Dammam 7 Data Center, Ksa
- Denizbank Data Center, Istanbul
- DETE-Immobilien, Stutgart
- Deutsche Bank, Bangalore
- Deutsche Bundesbank , Germany
- Deutsches Klima Rechenzentrum, Hamburg
- DFAS Data Center, Norway
- DGR Telekom, Bursa
- Digiplex, Oslo
- Digital Realty, Amsterdam
- Doclerpro , Hungary
- DORA 2012
- DPC Data Center, Tver
- DROSBACH Cloche d'Or GD, Luxembourg
- DSP 3' Data Center Project, Russia
- DTO, Ministry of Defence, Airport Woensdrecht
- Equinix, Pantin-Paris
- Equinix, Amsterdam
- Equinix, Oman
- Equinix, Frankfurt
- Equinix, Istanbul
- Equinix, Milan ML2

# DATA CENTER SOLUTIONS
## Data Center References

- Equinix, Munich
- Equinix PA4.4 Pantin (93), France
- Equinix PA9 Paris, France
- Equinix, Perth
- Equinix, Sydney
- Ericsson AB, Linköping Gen-Power, Sweden
- ESDC Data center - Mumbai
- ESDS Solutions, Mumbai
- Etisalat Data Center - Khalifa City, Abu Dhabi, Al Ain,
- EU Networks, Halfweg
- EUROCLEAR Brussels
- EURONET II Brussels
- Evoswitch, Haarlem
- EVS Liège
- Fastweb (Internet provider) - Firenze, Bergamo, Roma, Bari, Catania, Palermo, Napoli
- Finansbank IT Center, Istanbul
- FORUM II Brussels
- France Telecom-Orange, Rueil Malmaison-Aubervilliers-Val de Rueil
- Free-Iliad, Vitry-sur-Seine
- Global Switch, Clichy
- Göteborgs Energi HK, Sweden
- Green Data Center - ABB, Switzerland
- Greenwich View Data Center, UK
- Grid Telekom, Ankara
- Halkbank Data Center, Istanbul
- HCL Infosys, Chennai
- Hoddesdon Data Center, UK
- Hyde Park Hayes Rackspace Data Center, UK
- Hydro66 Hydroelectric Data Center, Sweden
- IBM Data Center; Brussels, Greenford, Hurley, Bangalore
- IDFC Bank Chennai, India
- Imagination North London Data Center, UK
- InfraServ, Hürth
- Intel, Bangalore
- Interxion (La Courneuve, Paris), France
- Interxion AMS3, Schiphol Rijk, Netherlands
- Interxion MRS3, Marseille
- Interxion PAR8 Paris, France
- Interxion PAR9 Paris, France
- IP Only, Stockholm
- Irideus, Milan
- İş Bankası Operational Center Data Center, Istanbul
- İş Bankası Tuzla Data Center, Istanbul
- İTÜ National High Accuracy Calculation Center, Istanbul
- IX - EUROPE, Frankfurt
- Ixcellerate Data Cente, Moscow
- KBC Datacenter, Leuven
- KKB Credit Registration Center Data Center, Istanbul
- KPN, Drentestraat, Amsterdam
- Kuveyt Türk Banking Station Data Center, Istanbul
- Khazna, Data Center
- L&T Data Center, India
- L&T, Chennai
- LCL Belgium, Brussels
- Level 3, Amsterdam
- Linköpings University Data Hall, Sweden
- Lucent Technologies, Bangalore
- Malta Data Center, Malta
- MAN RZ LDR-Gebäude, Dachau
- Megafon Data Center, Samara
- Mobıly Abhur, Jeddah
- Mobıly Data Center Obhur, Ksa
- Mobistar, Liège
- MTS Data Center, Novosibirsk
- Muscat Internation Airport MC3, Oman
- Natixis, Melun-Bailly
- Netmagic, Bangalore
- NEXT DC, (Sydney-2 , Melbourne-2, Brisbane-2, Perth-2) Australia
- Nirlon IT Park, Mumbai
- Nournet, Riyadh
- Nova Data, Eindhoven
- Noovle, Moncalieri
- Noovle, Rozzano
- Noovle, Cassina de Pecchi
- NXS, Amsterdam
- Office Complex Datacenter Muscat, Oman
- Old Reel Store Scotland Data Center Phase 1 & 2, UK
- Optiver, Amsterdam
- Orange, Val de Reuil
- Orange, Chartre
- Polizia di Stato, Bari
- Poste Italiane, Roma
- RABO Bank, Dealingroom, Utrecht
- Radore Telekom Metrocity Data Center, Istanbul
- RAM Mobile Data, Utrecht
- RBS Bank, Birmingham
- Rechenzentrum Airbus, Ottobrunn
- Rechenzentrum EDEKA, Würzburg
- Rechenzentrum RTL, Luxemburg
- Rechenzentrum Universität, Konstanz
- Sabıc Headquarter Data Center, Ksa
- Salpuria Tech Park, Bangalore
- SB-SB, Handelsbanken, Sweden
- Safehost SH2, Gland, Switzerland
- Selectel Data Center, Moscow and St. Petersburg
- SGK (Social Security Institution) Data Center, Ankara
- Signal Corp. Data Center, Qatar
- Sky, Roma
- SMALLS Brussels, Belgium
- SNCF Socrate - Phases 1 & 2, Lille
- Société Générale, Fontenay
- Sogei, Roma
- Sparkle Telecom Palermo, Sicily
- Stadtwerke Herne RZ TMR, Germany
- Statistic Landesamt Bayern, München
- SWIFT Brussels, Belgium
- Take Solutions Data Center, India
- T-Com Zentrale, Hamburg
- TCS (Adibatla, Hinjwadi, Infopark, Powoi, Sez Bajarat,Trivendrum), India
- TDC, Oslo 2011
- Teknik I Media Datacenter AB, Sweden
- Tele 2, Stockholm, Gen-Power, Sweden
- TeleCity – Phases 1 & 2, Courbevoie
- TeleCity AMS2 & AMS4; Wenckebachweg, Amsterdam
- Telecom Italia - Cesano Maderno, Mestre, Cassina de Pecchi, Rozzano, Aprilia, Acilia
- Telekominikasyon Communication HQ, Ankara
- The Data Center Group, Netherlands
- THY Data Center, Istanbul
- T-Mobil II, Bonn
- T-Systems, München
- Turkcell, Gebze, İzmir, Ankara, Çorlu
- Türkiye Finans Katılım Bankası Data Center, Istanbul
- Turkuaz Data Center, Ankara
- Twin Datacenters, National Tax Authorities, Apeldoorn
- UK2 GROUP, London
- Uni Credit, Verona
- Unisource Brussels, Belgium
- University of Amsterdam, SARA Computer, Amsterdam
- UOB Operation Center Building, Thailand
- UZ-Leuven Leuven
- Vakıflar Bankası Data Center, Ankara
- Virtu (Equinix AMS1), Amsterdam
- Virtus Enfield Data Center, UK
- Vodafone, Arnhem
- Volta Great Sutton Street Data Center, UK
- Volvo Data, Gothenburg Gen-Power, Sweden
- WE Dare Rivium, Capelle a/d Ijssel, Netherlands
- Wide XS, Amsterdam
- Wipro (Bangalore, Cochin, Pune), India
- Woking Data Center, UK
- WTC, Bangalore
- YKBU Yapı Kredi Banking Center Data Center, Istanbul
- Zenium Data Center; Slough, Frankfurt, Istanbul

## Notes

# DATA CENTER SOLUTIONS

## Notes

## Notes

# PRODUCT TYPES

**BUSBAR ENERGY DISTRIBUTION SYSTEMS**

**CABLE TRAYS**

**TROLLEY BUSBAR ENERGY DISTRIBUTION SYSTEMS**

**INDOOR SOLUTIONS**

**SUPPORT SYSTEMS**

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