

Datacenter

GGSC – German Group for Services & Consultancy
Frankfurt/Germany

Hussain Suliman (Chairman & CEO)

Prof. Dr.-Eng. Hans Georg Reinke Senior Consultant & CEO (Team-Leader – „Reconstruction of Sudan after war“)

Cem Güler (CIO – Chief Information Officer)

The Group

- **Founded 30 years ago and has grown from a small local set up to an international firm**
- **Operating in African, Arabian, Asian & European Markets**
- **Head Office in Frankfurt Germany**
- **Offices: Dubai/UAE, Khartoum/Sudan, İzmir/Turkey, Doha/Qatar, Sierra Leone and Chennai/India**
- **Joint Ventures:**
 - **German HealthCare: Medical IT & Technology**
 - **medasol Germany: Bio Medical & Hospital Operation Management**
 - **getucon Germany: Technology Consultancy**
- **Thanks its end-to-end work approach and world-wide partnership ecosystem, GGSC completed diverse projects in different industries**



Mr. Suliman (Chairman & CEO) and his Team in University of Zurich Datacenter

Chairman Mr. Hussain Suliman

- Mr. Hussain Suliman is Chairman of the German Group for Services and Consulting "GGSC" and has 35 years of international business experience and strong relationships in a different field and sector with manufacturing companies and corporations as well as government institutions, chamber of commerce – Frankfurt/Germany (IHK) and decision makers worldwide.
- **GGSC German Group for Services & Consultancy** is a Group comprises several limited companies. It is registered in Frankfurt/M, Germany under the German Law.

GGSC, GICT, AEM (Dubai), GGSC Competence (India), GGSC WSI International (Sudan), German Qatari Group (Qatar), getucon (Turkey) the Group has grown substantially from a small set up to international companies during thirty five (35) years old.



Mr. Suliman – Headquarter in Germany Frankfurt

Prof. Dr. Hans Georg Reinke

- **Senior Consultant & CEO – Team-Leader**
- **Prof. of Structural Engineering Frankfurt University of Applied Sciences**
- **Partner of More than 35 years of professional Werner Sobek Engineering Frankfurt**
- **International experience in Engineering**



Prof. Hans Reinke

Curriculum Vitae

1952	Born in Frankfurt/Germany
1972 – 1977	Civil engineering studies at the University of Karlsruhe/Germany and University of Stuttgart/Germany
1977 – 1979	Employee in the engineering office BGS, Frankfurt/Germany
1979 – 1984	post-graduate fellow of Prof. Dr.-Ing. Jörg Schlaich at the Institute for Concrete Construction of the University of Stuttgart/Germany
1984 – 1990	Senior Engineer in the office of Harries & Kinkel, Neu-Isenburg/Germany
1986	PhD in civil engineering at the University of Stuttgart/Germany
1991 – 2001	Partner in the office of Hock & Reinke, Haibach/Germany
since 1991	Professor at Frankfurt University of Applied Sciences, Frankfurt/Germany
1993 - 2022	Proof engineer for structures and materials
1996 - 2022	Proof engineer of the national railway authority
since 2001	Senior Consultant & CEO
since 2005	Shareholder GGSC WSI International & Team Leader Sudan: Infrastructure Projects in Khatoum State (21 Intersections)
since 2023	Team-Leader – „Reconstruction of Sudan after war“

Cem Güler

- Chief Information Officer (CIO)
- 15 years of experience in Technology Consultancy
- Extensive experience as Team-Leader in Project Management
- International experience in Requirements Engineering & Delivery Management



Cem Güler - Chief Information Officer (CIO)

Profile	
Activity	CIO / Senior Consultant for Datacenter Solutions
Range of applications	Project management, business analyst, product owner, scrum master, business process analysis, modeling and reengineering, requirements analysis, robotic process automation (RPA), innovation management, EU tenders, IT outsourcing, sourcing strategy, tenders, contract negotiation, transition, transformation, cloud, IT Infrastructure, AWS, Presentation and communication, Strategic planning, Business development, Design Thinking

Brief portrait
Extensive experience as a project manager, requirements engineer and delivery manager in classic and agile Datacenter, Digitalization and Data Archiving projects, cloud, IT & Telecommunication

Knowledge	
Industry knowledge	<ul style="list-style-type: none"> • Ministries • Banks • Chemie • Logistics and forwarding • Airports • E-Commerce • Education • IT & Telecommunication
Technical knowledge	Cloud, AWS, Azure, firewall, IT security, UCC, VoIP, WAN, VLAN, MPLS, DWDM, dark fiber, data center management, backup & disaster recovery
SAP	certified in SAP ERP TERP1 integrated business processes
SAP development	Certified in SAP Development "SAP Fundamentals, ABAP, Web DynPro"

Profile of GGSC

- General Consultant for Ministries (PR - Contacts with German Government, European Authorities, Chamber of Commerce – „IHK“, Banks & Development Institution) and Joint Venture and sole agent for European, Asian and USA Companies.
- General Contractor & Turnkey Projects (Infrastructure, Healthcare, Mining, Oil & Gas, Agriculture, Education, IT, Vocational Training, Digitalization, Datacenter)
- All kinds of Machineries & Equipments
- Digitalization (E-Government)
- Datacenter
- IT-Infrastructure
- Fiber & Network Solutions
- IT-Network Security
- Telecommunication
- Hardware
- Software & Licences
- Project Engineering (Outsourcing)

Profile of GGSC

- Infrastructure: Road, Bridges & Highrise Bulidings
- Health: Hospitals
- Education
- Information Technology: Digitalization & E-Goverment, Datacenter & Telecommunications
- Energy & Renewable Energy
- Mining
- Agriculture
- Livestock
- Oil & Gas
- Banking Systeme & Training
- Finance

Datacenter



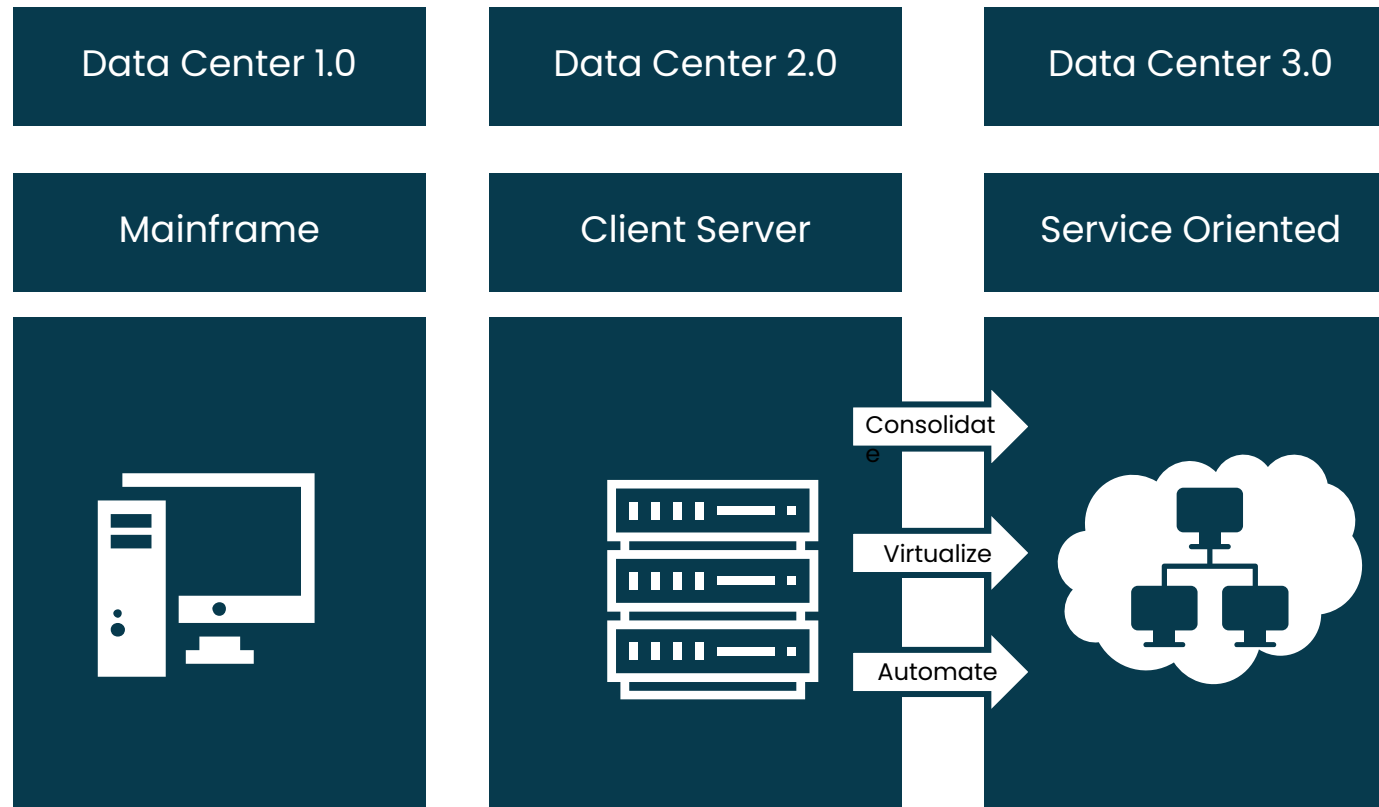
German Group for Services & Consultancy

What We Do

Evolution of Data Center

State of art technologies

Data centers has evolved from central data storage (mainframe computer) to key enabler of any business for automating processes, consolidating Technologies and virtualize physical IT infrastructure



What We Do

Data Center Basics

Data Center solutions rely on a network of computing and a storage that enables distribution of shared application and data

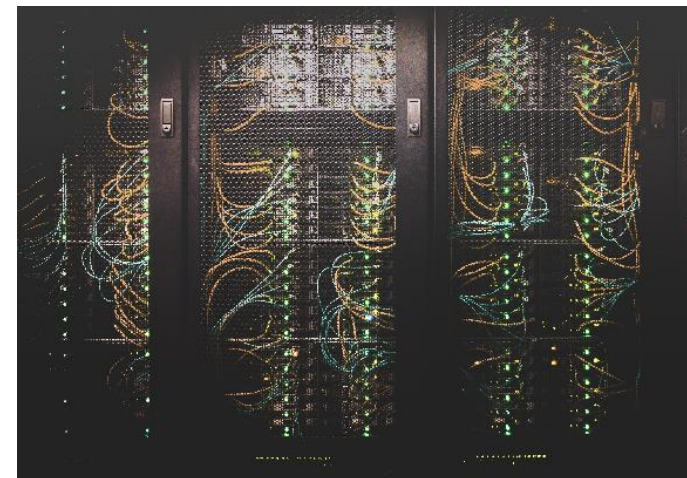
Definition

- A centralized location where computer related resources (and data) are stored.
- The users do not require physical access in order to use the resources.
- Is the physical space (or spaces) in which a company houses and operates its IT hardware infrastructure



Key Elements

- The Site
- Command Center
- Cable Management
- Network Infrastructure
- Environmental Controls
- Power
- Cooling
- Security/Redundancy



Data Center Architecture

Data center architecture is **the physical and logical layout of the resources and equipment within a data center facility**. It serves as a blueprint for designing and deploying a data center facility. It is a layered process which provides architectural guidelines in data center development



Virtual Layer

Data center virtualization is the process of designing, developing and deploying a data center on virtualization and cloud computing technologies.



Server

Server is a computer program or a hardware device that provides services to the connected devices in the network. The other devices are called hosts or clients



Converged Network

A converged network **allows you to utilize the same equipment and space for multiple systems**. This type of network helps you eliminate redundancy while still optimizing the delivery of all services



Unified Storage

Unified storage is **a storage system that makes it possible to run and manage files and applications from a single device**

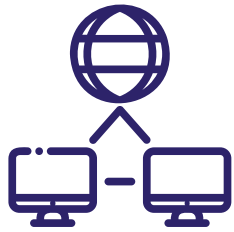


Back-Up

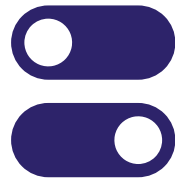
The data stored reliably is protected by such systems in case of malfunctions, application errors, virus infection, loss or completely user faulty malfunctions.

Data Center Architecture

Other Equipments & Parts



LAN & Fiber



Switches



Patch Panels



Firewall



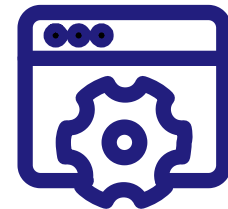
VPN



Router



Monitoring



Remote Control

Data Center Elements

Site Location & Environment

Energy Cost and **Connectivity** are main consideration for Data Center site selection

Key Elements

Layout

- Room
- Interior Room
- Interior Building Space
- Building Infrastructure

Access

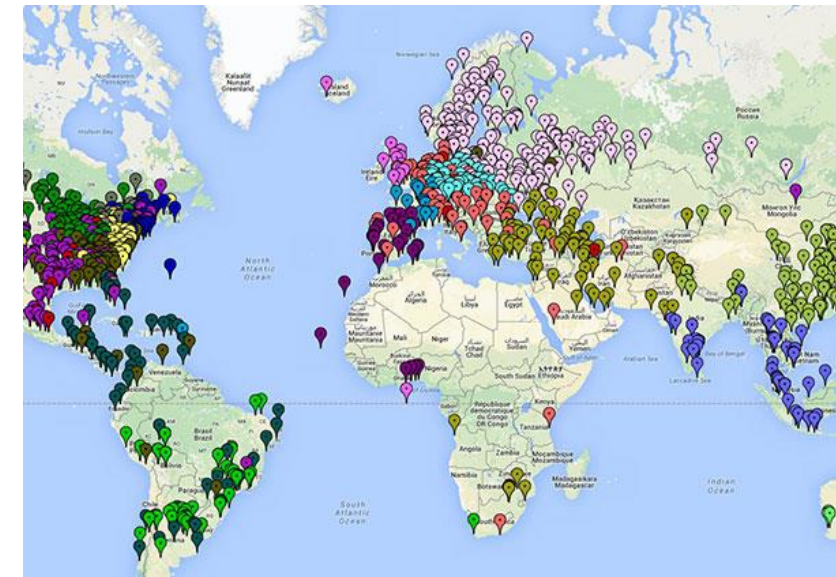
- Ease of access to interiors
- Large oversized doors
- Loading Dock
- Ramps
- Service Elevator

Environmental

- Earthquakes
- Floods
- Lightning
- Fires
- Hurricanes
- Tornados



Data Center Interior



Data center Distribution across Geographic Areas

Data Center Elements

Security & Surveillance

Security and Surveillance is not only for business continuity but also preventing intruders

Key Elements

Security

- Authorized / Limited Access
- Keycards
- Biometric Pass
- Escorted Entry

Surveillance

- CCTV
- Motion Detector
- Track record of entry and exit
- Log reports



Data Center Elements

Operational Elements

Power Supply, Energy Cost and UPS for continuity is main focus for flawless and sustainable operations

Key Elements

Power

- UPS
- Surge Protection
- ATS
- Batteries
- Generator

Power Capacity

- Server Equipment
- HVAC
- Lighting
- Security
- Fire Protection



Line of Expertise

Fiber Optic Solutions for Datacenter

Fiber Optic System is a communication System that uses light as the carrier of the information from a source to a destination through a guided fiber cable (glass or plastic).

Because of high **information carrying capacity** and low attenuation, now-a-days- fiber are finding wide application in telecommunications, local area networks, sensors, computer networks

Main features



ONE STOP IT & TELECOMMUNICATION SOLUTIONS



German Group for Services & Consultancy

What We Do

In-Nutshell

We provide end-to-end Telecom solution from software development to network infrastructure



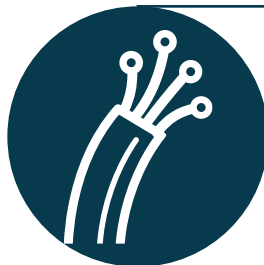
Custom Applications

- We offer tailor made software applications for Telecom industry ranging from CRM to Modern Work Place Solutions
- Our software development line is grouped in 3 main categories Web App, Mobile App and Enterprise Applications.



IT Infrastructure

- Our IT Infrastructure solutions cover all components required to operate and manage IT environments.
- Our solutions includes Data Center, Cloud, Back-Up and Data Recovery, Cyber Security, Networking, Connectivity, API Management and Cloud Infrastructure .

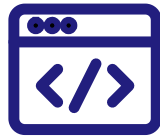


Fiber Solutions

- We are partnering leading fiber optic solution provider to offer services across industries ranging form telecom to medical industry

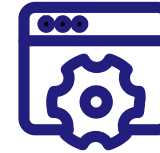
Line of Expertise

Custom Software Solution



Custom Software Solutions

We develop custom software for based on your requirements: digital channels to reach customer, faster and resilient processes or to meet regulatory requirements



ERP & CRM Solutions

We develop ERP and CRM solution either by module or as full fledged solution based on requirement of our client across different platform as mobile, web and desktop application



Mobile Application

We develop mobile application solutions for IOS and Android clients. Our mobile app capabilities allow us deploy any kind of desktop and web application as mobile solution



System Integration

We help our clients at integrating different application for convenient automated and seamless process flow and eventually optimized business results

Line of Expertise

IT & Cloud Infrastructure



Data Center

Data Center solutions rely on a network of computing and a storage that enables distribution of shared application and data



Data Back-up & Recovery

The data stored reliably is protected by such systems in case of computer or server malfunctions on the disk, application errors, virus infection, loss of data files or completely user faulty malfunctions.



Cyber Security

Cyber Security is the necessary measures and measures taken to protect vital information, to ensure its integrity and to ensure that it is accessible and accessible.



Logging Solutions

It allows you to easily analyze and report in case of any problem by monitoring the traffic on your network regardless of the number and characteristics of the platforms used.

Line of Expertise

IT & Cloud Infrastructure



Software & Hardware

We undertake all the procedures for the detection, preparation, purchase or production of the electronic devices and software that your company needs, and the installation and delivery.



Data Archiving

Data Archiving is a solution for long-term data retention. The Archive is a set of historical records kept for long-term storage and used for future reference. Typically, archives contain data that is not actively used.



Mail Server Solutions

Many people use Internet-based mail clients such as Microsoft, Yandex or Gmail. However, those who need a large area, especially businesses, should invest in their own mail servers.



VPN Solutions

Virtual private network, Internet technology that enables to connect to different networks through remote access.

Line of Expertise

Industry Solutions



Network Solutions

Taking necessary precautions for safe operation of long distance networks, etc. services. We perform Server Installation and Configuration services



Telephony Switchboard

Thanks to IVR-CRM Integration, it allows you to apply special scenarios to the number in your new generation virtual telephone exchanges



Server Systems

A client-server structure is often used in an internal company network. A central server provides services for many clients. File Server, Terminal Server and Cloud Servers are the most common ones



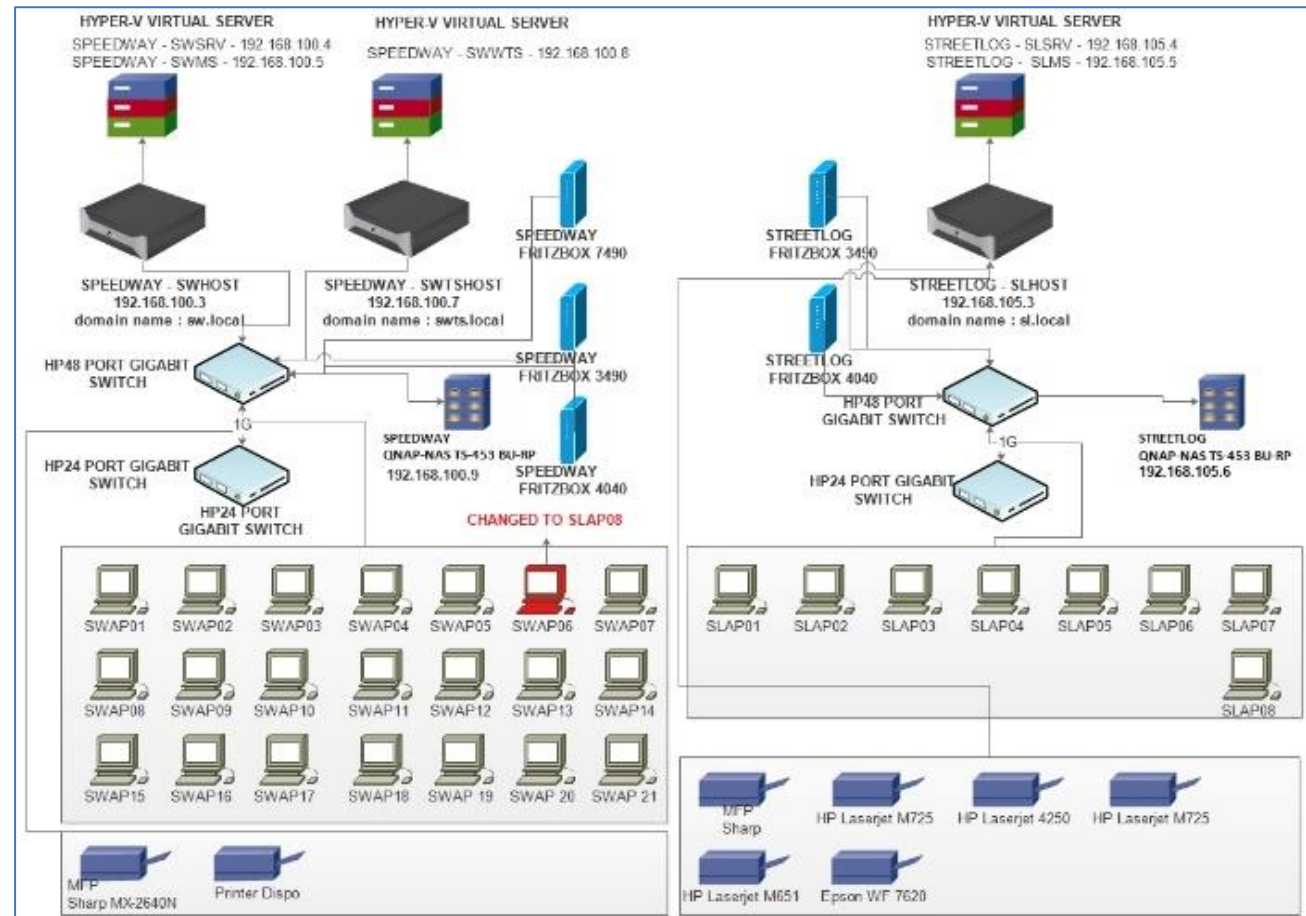
IT as a Service

We are providing all kind of IT services as managed service to our client

Line of Expertise

Industry Solutions – Client Server Infrastructure

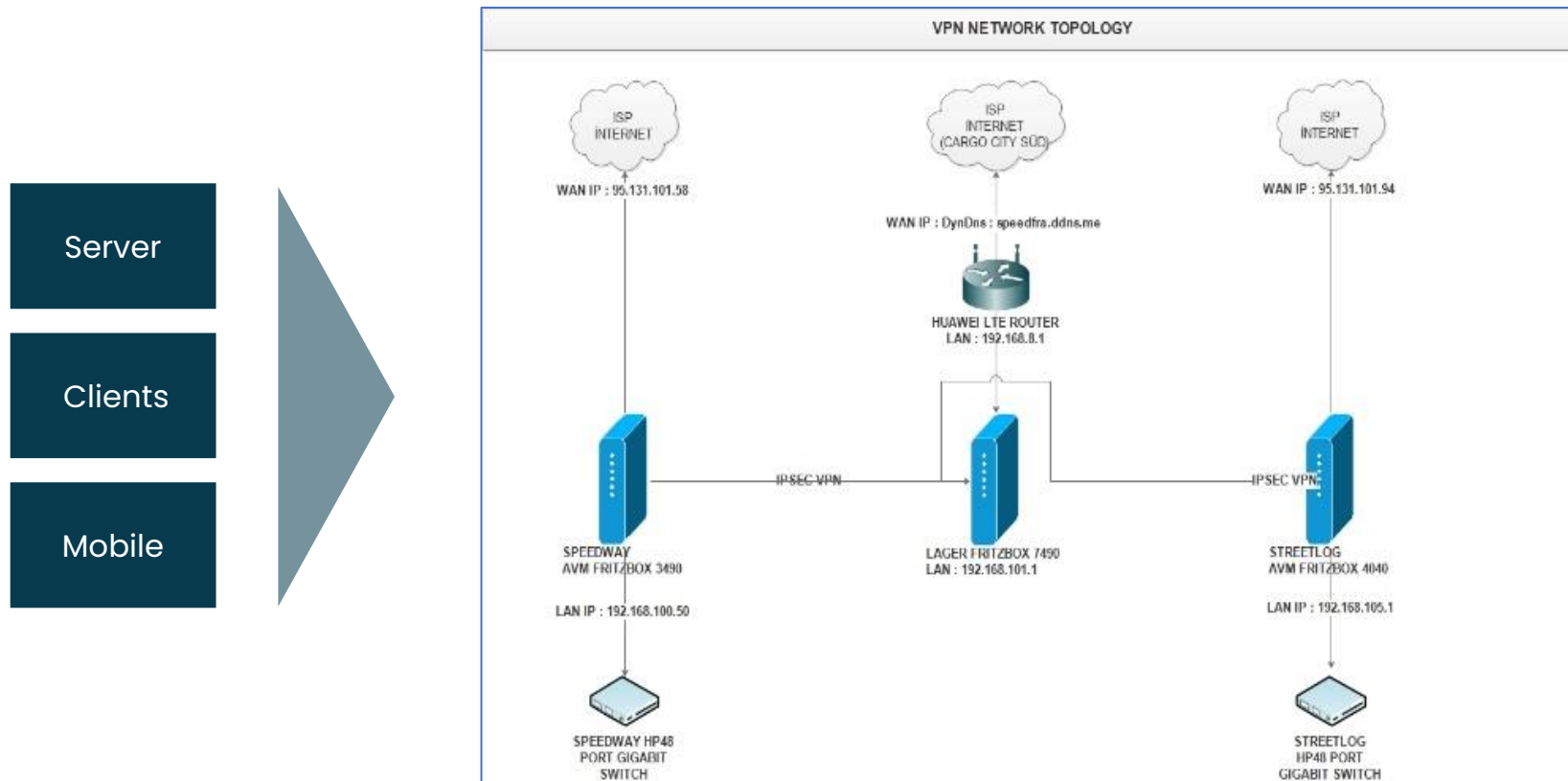
Server	<ul style="list-style-type: none"> Hosts Virtual Machine etc.
Clients	<ul style="list-style-type: none"> PC Ext. Clients etc.
Security	<ul style="list-style-type: none"> Firewall VPN etc.



Line of Expertise

Industry Solutions – VPN Network Topology

Creating safe, encrypted connection from a device to a network



References / Projects

Datacenter of University of Zurich (UZH)



University of
Zurich ^{UZH}

- **GGSC/Diamond SA (Switzerland)**
- **Diamond** did all the Installations of the high-performance, reliable fiber optic components in **UZH**.
- **Mrs. Andrea Sigel – Team Leader of GGSC/Diamond**



GGSC/Diamond in UZH Datacenter with Team Leader Mrs. Andrea Sigel

References / Projects

Datacenter of University of Zurich (UZH)



University of
Zurich ^{UZH}



GGSC Partner Diamond in UZH Datacenter



GGSC Partner Diamond in UZH Datacenter

References / Projects (Draft)

Project / Reference / Location



University of
Zurich ^{UZH}



GGSC Partner Diamond in UZH Datacenter



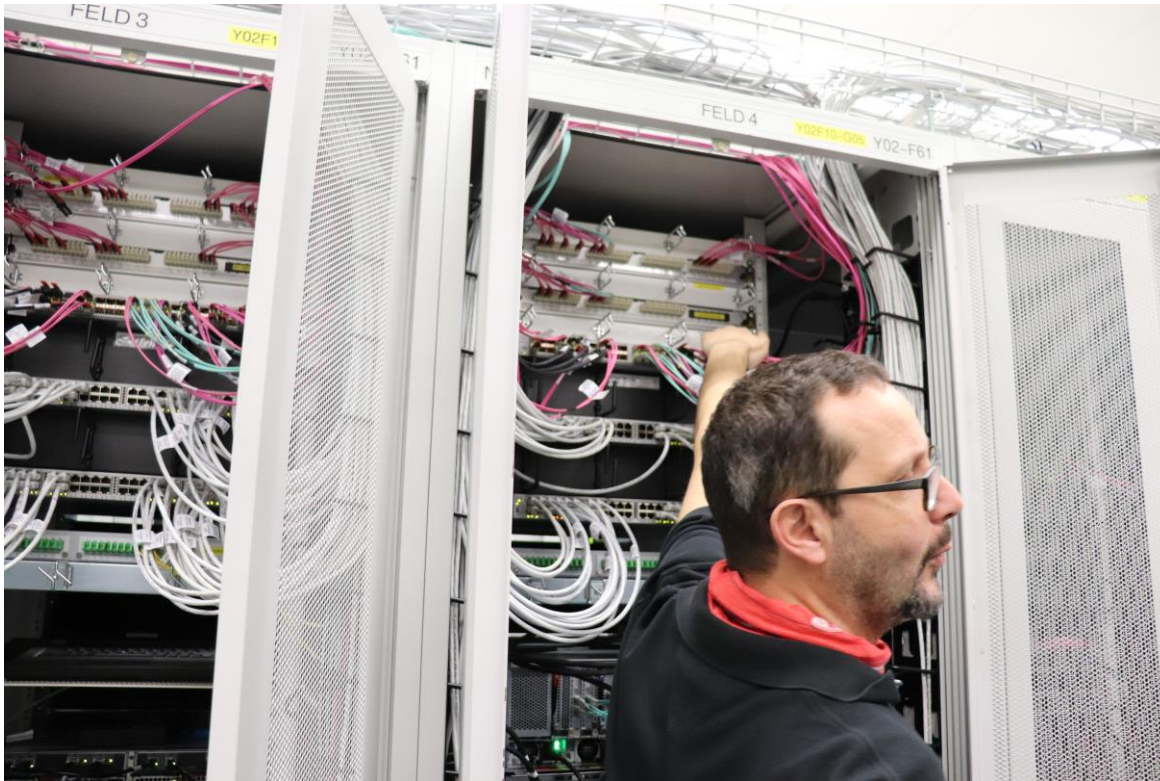
GGSC Partner Diamond in UZH Datacenter

References / Projects (Draft)

Project / Reference / Location



University of
Zurich ^{UZH}



GGSC Partner Diamond in UZH Datacenter



GGSC Partner Diamond in UZH Datacenter

References / Projects (Draft)

Project / Reference / Location



University of Zurich ^{UZH}



GGSC Partner Diamond in UZH Datacenter



GGSC Partner Diamond in UZH Datacenter



GGSC Partner Diamond in UZH Datacenter

References / Projects

Ministry of Sudanese Council of Ministries



- **GGSC/Diamond SA (Switzerland)** with Sudanese Partner **sudatel Telecom Group**
- Turn key Project. Consulting, Planning, Infrastructure, high-performance, reliable fiber optic components.
- **Ministry of Sudanese Council of Ministries.**
- Fiber optic assemblies on a wide variety of fiber and cable. Different fiber and ferrule technologies. Used standard and custom connectors.



Ministry of Sudanese Council of Ministries

Mrs. Andrea Sigel – Team Leader of GGSC/Diamond

References / Projects

Ministry of Sudanese Council of Ministries



Main features



Mrs. Andrea Sigel
(Team Leader of GGSC/Diamond)

Mr. Suliman
(Chairman & CEO)

Diamond Sales
(Diamond Sales Manager)

References / Projects

Ministry of Sudanese Council of Ministries



Main features



Headquarter Diamond SA (Switzerland)

References / Projects

Ministry of Sudanese Council of Ministries



Fiber Optic System is a communication System that uses light as the carrier of the information from a source to a destination through a guided fiber cable (glass or plastic).

Because of high **information carrying capacity** and low attenuation, now-a-days- fiber are finding wide application in telecommunications, local area networks, sensors, computer networks



References / Projects

Datacenter Upgrade Trusted Colo in Frankfurt/Germany



TRUSTED
COLO

- Datacenter Upgrade with **GGSC/getucon** & **Kurth Electronic**, focused on telecommunications, data technology and electrical installations.
- **Trusted Colo** is a local datacenter provider in Frankfurt/Germany and a
- High Performance Datacenter made in Germany



Cem Guler
(CIO)

Heinz-Dieter Elbracht
(Chairman & CEO of Trusted Colo)



Contract: GGSC/getucon – Trusted Colo

References / Projects

Datacenter Upgrade Trusted Colo in Frankfurt/Germany



Entry of Datacenter Trusted Colo



Datacenter Trusted Colo

References / Projects

Datacenter Upgrade Trusted Colo in Frankfurt/Germany



Datacenter Trusted Colo



Datacenter Trusted Colo

References / Projects

Datacenter Upgrade Trusted Colo in Frankfurt/Germany



Datacenter Trusted Colo



Datacenter Upgrade with high Performance Servers

References / Projects

Datacenter Upgrade Trusted Colo in Frankfurt/Germany



Datacenter Trusted Colo

References / Projects

Datacenter Upgrade Trusted Colo in Frankfurt/Germany

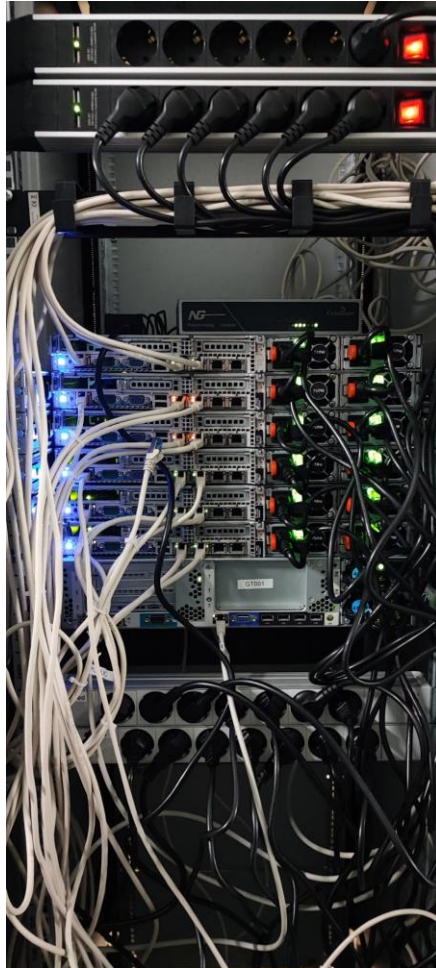


Preparation of Datacenter Components

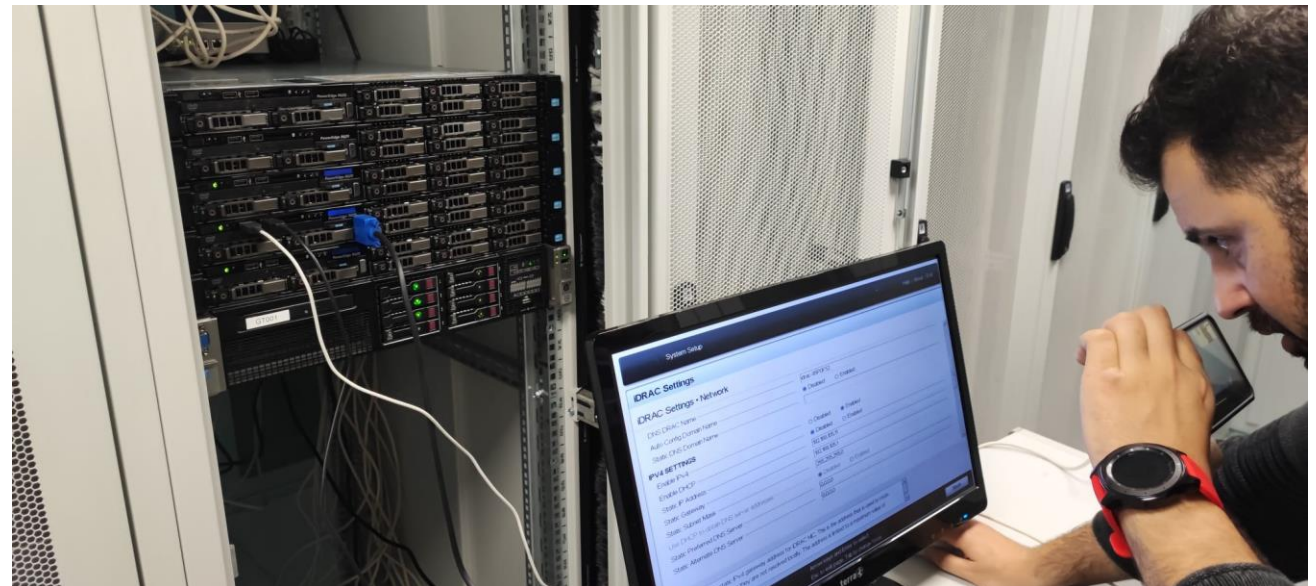
Datacenter Trusted Colo

References / Projects

Datacenter Upgrade Trusted Colo in Frankfurt/Germany



Datacenter Trusted Colo



Datacenter Trusted Colo

References / Projects

Datacenter Upgrade Trusted Colo in Frankfurt/Germany



Datacenter Trusted Colo

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Datacenter Trusted Colo

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Datacenter Trusted Colo

References / Projects

Datacenter Upgrade Trusted Colo in Frankfurt/Germany



Datacenter Trusted Colo



Datacenter Trusted Colo

References / Projects

Datacenter Upgrade Kurth Electronics in Nürnberg/Germany



- **Kurth Electronic** stands for quality, user-friendliness and innovation in measuring and testing technology.
- **GGSC & Kurth Electronics** did several projects (Hardware, technical components, Trainings, Installations) in Sudan with Sudatel and in Germany for international firms.
- Focus on telecommunications, data technology and electrical installation, the company addresses various market segments: telecommunications companies, service technicians and installers are among its long-standing customers.
- The company is one of the leading international companies in these business areas.



Kurth Electronic Headquarter Nürnberg/Germany

References / Projects

Datacenter Upgrade Kurth Electronics in Nürnberg/Germany



Multi Testing with high-performance components

References / Projects

*Datacenter transformation UBS Europe
(Germany/Frankfurt)*



- Contract Signing with GGSC Partner **getucon (Germany)**, as a Technology Consultancy firm, specialized for Datacenter Solutions.
- **UBS Group AG** is a multinational investment bank & financial services company founded and based in Switzerland.



UBS Bank in Germany/Frankfurt

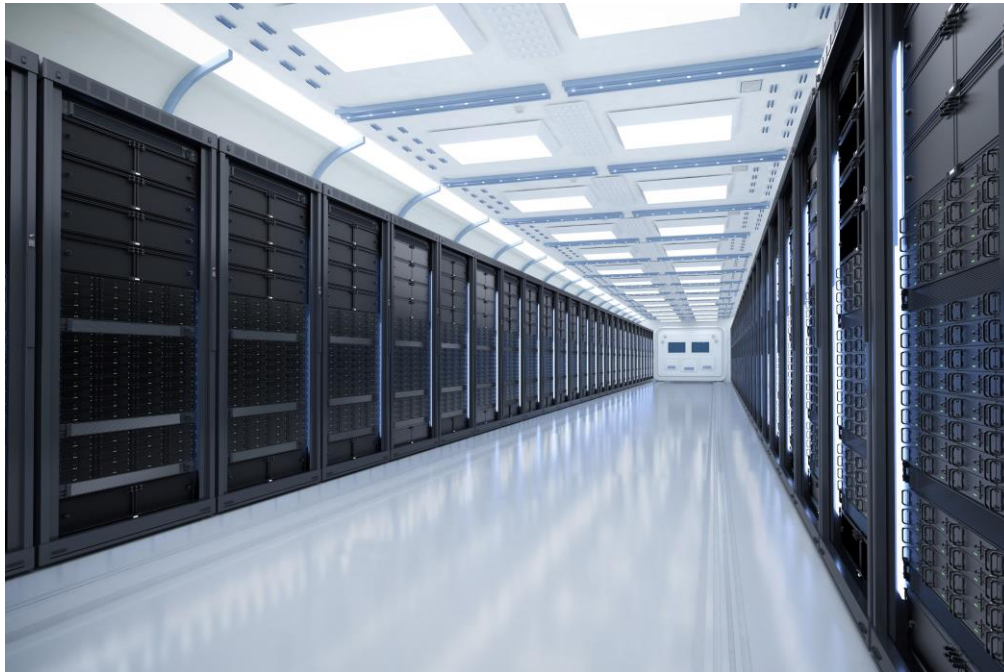
References / Projects

*Datacenter transformation UBS Europe
(Germany/Frankfurt)*



UBS

getucon
management & technology



Datacenter side UBS Bank in Germany/Frankfurt



Datacenter side UBS Bank in Germany/Frankfurt

References / Projects

*Datacenter transformation UBS Europe
(Germany/Frankfurt)*

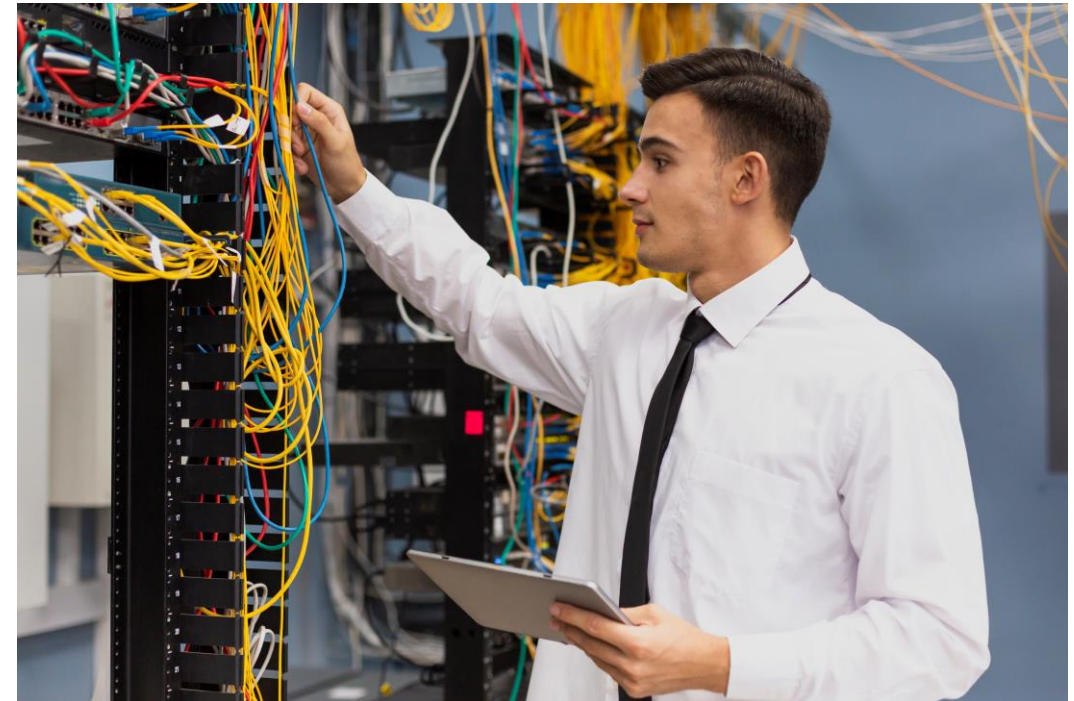


UBS

getucon
management & technology



Datacenter local side UBS Bank in Germany/Frankfurt



Datacenter local side UBS Bank in Germany/Frankfurt

References / Projects

*Datacenter transformation UBS Europe
(Germany/Frankfurt)*



UBS



getucon
management & technology



UBS Bank Broker Office in Germany/Frankfurt

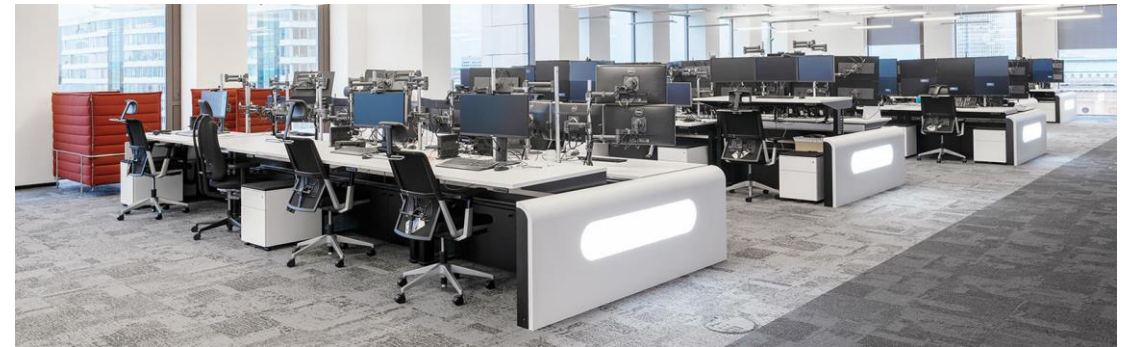
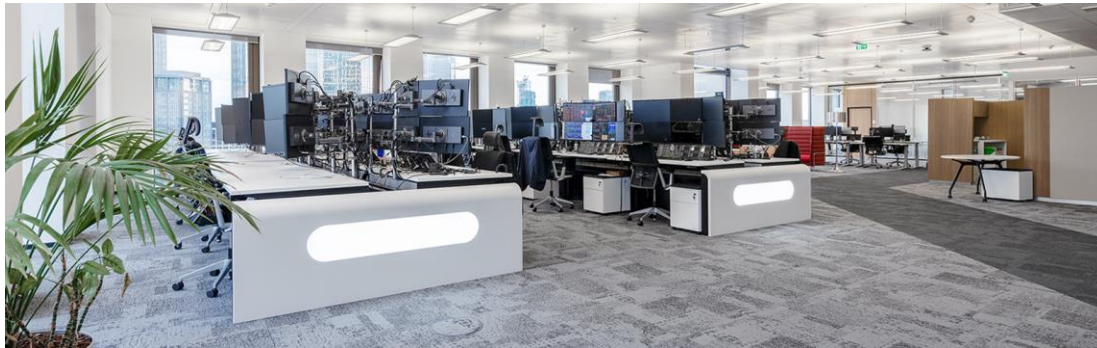
References / Projects

*Datacenter transformation UBS Europe
(Germany/Frankfurt)*



UBS

getucon
management & technology



UBS Bank Broker Office in Germany/Frankfurt

References / Projects

Datacenter Transformation and Data Migration Nord-Micro (Germany/Frankfurt)



- Planning of building construction for Datacenter, datacenter transformation and data migration with **GGSC/getucon** & **Bechtle**, IT system houses with a full range of IT services from strategic consulting to running entire IT infrastructures.
- Contract Signing with GGSC Partner **getucon (Germany)**, as a Technology Consultancy firm, specialized for Datacenter Solutions.
- **Collins Aerospace/Nord-Micro**, headquartered in Frankfurt am Main, Germany, is an established global player in the aerospace business and a world leader in cabin pressure control systems for large commercial aircraft.



Nord-Micro Datacenter local side Germany/Frankfurt

References / Projects

Datacenter Transformation and Data Migration Nord-Micro (Germany/Frankfurt)



Nord-Micro Datacenter local side Germany/Frankfurt

References / Projects

Datacenter Transformation and Data Migration Nord-Micro (Germany/Frankfurt)



Nord-Micro Datacenter local side Germany/Frankfurt



Nord-Micro Team Leads Germany/Frankfurt

References / Projects

Datacenter Transformation and Data Migration Nord-Micro (Germany/Frankfurt)



Nord-Micro Team Leads Germany/Frankfurt



**Dr. Ulrich Raab
(CEO)**

References / Projects

Datacenter Transformation and Data Migration Nord-Micro (Germany/Frankfurt)



Nord-Micro Datacenter local side Germany/Frankfurt



Nord-Micro Datacenter local side Germany/Frankfurt

References / Projects

Datacenter Transformation Clariant (Germany/Frankfurt)

CLARIANT^E

- Datacenter transformation with **GGSC/getucon (Germany)**, as a Technology Consultancy firm, specialized for Datacenter Solutions.
- **Clariant** is one of the worlds leading specialty chemical companies, contributes to value creation with innovative and sustainable solutions for customers from many industries.



Clariant Innovation Center local side Germany/Frankfurt

References / Projects

*Datacenter Transformation Clariant
(Germany/Frankfurt)*

CLARIANT

getucon
management & technology



Clariant Innovation Center Datacenter local side Germany/Frankfurt



Clariant Innovation Center Datacenter local side Germany/Frankfurt

Partner

Access Control, Time & Attendance, Security Management (Germany/Stetten)



- **GGSC/primion** provider for access control, time and attendance, security systems and comprehensive cloud services.



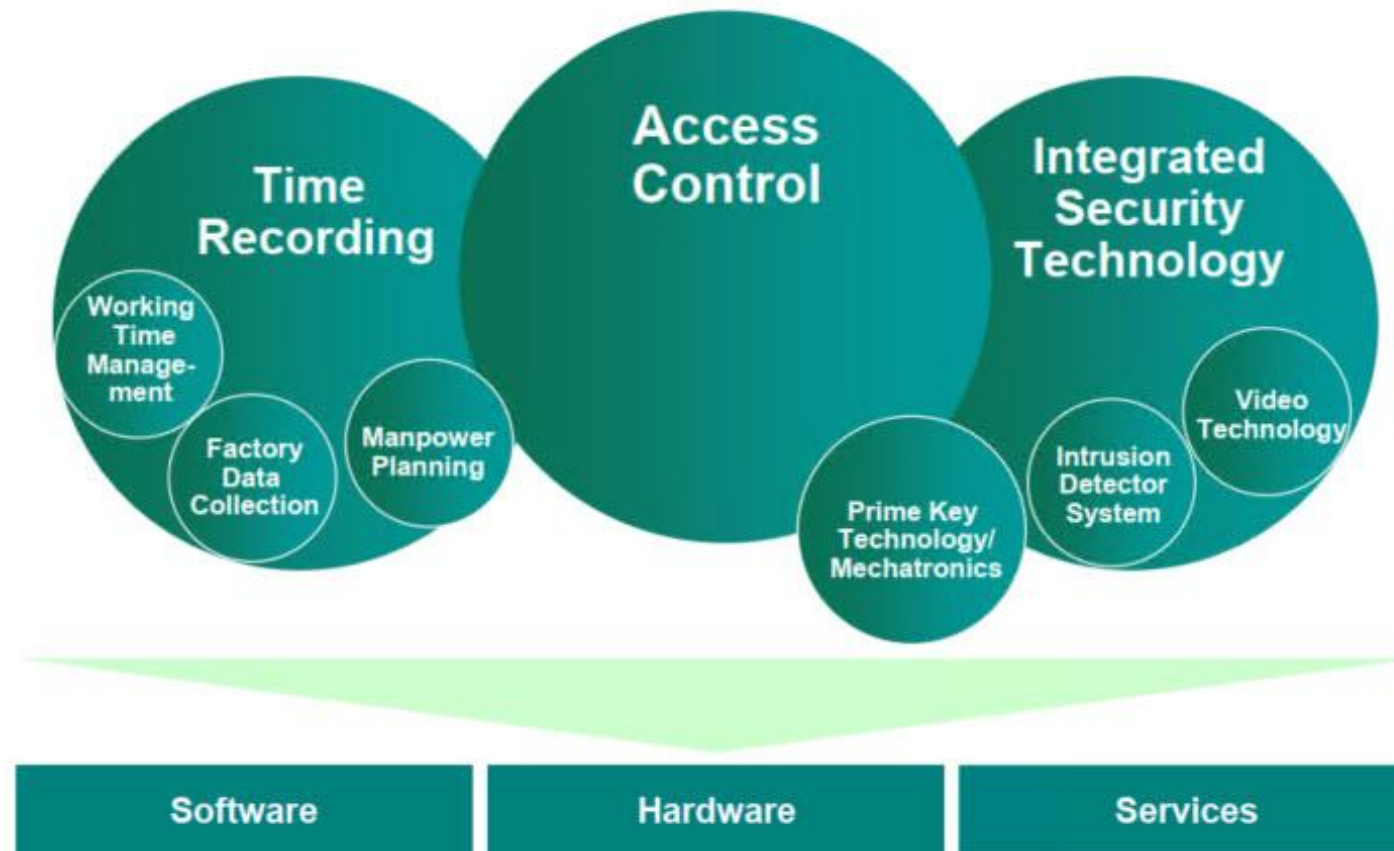
Primion Germany/Stetten

Partner

Access Control, Time & Attendance, Security Management (Germany/Stetten)



Development, Manufacture and Sales of innovative software and hardware based systems for Access Control, Time Recording and Integrated Security Solutions



Partner

Access Control, Time & Attendance, Security Management (Germany/Stetten)



- 150 locations with good installation conditions
- 150 locations with very limited installation conditions



Partner

Access Control, Time & Attendance, Security Management (Germany/Philippsburg)



- **GGSC/primion** provider for access control, time and attendance, security systems and comprehensive cloud services.
- 150 locations with good installation conditions
- 150 locations with very limited installation conditions



Primion side Germany/Philippsburg

Partners

Partner Companies



Head Office

medasol

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CONSULTANCY

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