

# WELCOME

to the pioneering world of 5G campus networks - a customised communication network that redefines the rules of the game for digital connectivity and data transmission. A 5G campus network is a private and independent, local and geographically limited mobile network infrastructure based on the fifth generation mobile communications standard. Users benefit from extremely low latency times, very high data rates and improved security and reliability. This opens up unprecedented opportunities to optimise internal processes, implement innovative applications and increase efficiency and productivity in a wide range of sectors and application areas.

Compared to previous wireless technologies, 5G offers significant advantages and sets new standards in mobile communication with a licensed spectrum that minimises interference and robust encryption methods for maximum data security. SIM card authentication standardises user management, while quality of service enables the prioritisation of data streams and supports critical applications. A revolutionary scheduler technology ensures consistently extremely low latency times in the uplink and downlink, even under high utilisation, which is essential for applications such as autonomous driving and telemetry. These benefits pave the way for innovative applications such as IoT, smart cities and beyond by providing an efficient, secure and responsive network infrastructure.



## About HMF Smart Solutions

HMF Smart Solutions GmbH (HMF) has been developing and implementing customised, mission-critical communication solutions in the field of professional mobile radio for more than 40 years and is a well-known specialist for technologies such as TETRA, LTE and 5G. HMF offers its customers from industrial, utility and transport companies, authorities and public safety organisations highly available and secure radio communication solutions. More than 50 engineers carry out innovative development work at two HMF locations (Bad Münde, Flensburg).

HMF co-operates closely with Flensburg University of Applied Sciences and works on bilateral projects with Braunschweig Technical University and TU Berlin. In its own Innovation Competence Centre with a 5G campus model network, an interdisciplinary team of experts at HMF focuses on the development of future-oriented, broadband 5G communication solutions. HMF is currently playing a key role in two research projects, COBRA-5G and TETRA++. Among other things, these projects are focussing on cyber security and the expansion of TETRA with broadband (MCX). Security is a proven top priority at HMF - HMF is certified to ISO 27001 and the quality management system to ISO 9001. This is binding for all areas, sites and employees of HMF.

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# PRIVATE 5G CAMPUS SOLUTION

## UNFOLD THE FULL POTENTIAL



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## THE HMF ECO-SYSTEM FOR YOUR 5G CAMPUS NETWORK

### PLANNING + CONFIGURATION + INSTALLATION & ACCEPTANCE + SERVICES

HMF Smart Solutions has more than 40 years of experience in the development, implementation and long-term support of customised, critical radio systems using a wide range of technologies. Our expertise ranges from compact networks for SMEs to nationwide radio systems. We specialise in meeting our customers' individual requirements for private 5G solutions with comprehensive expertise and a wide range of services - both today and in the future.

This makes us a reliable partner and experienced companion when it comes to realising private 5G campus solutions. As your complete solution provider, our strength lies in providing full project support from a single source - from development and planning through to implementation, supplemented by comprehensive services and support during operation.



### EFFICIENT NETWORK PLANNING: STRATEGIC AND PRECISE

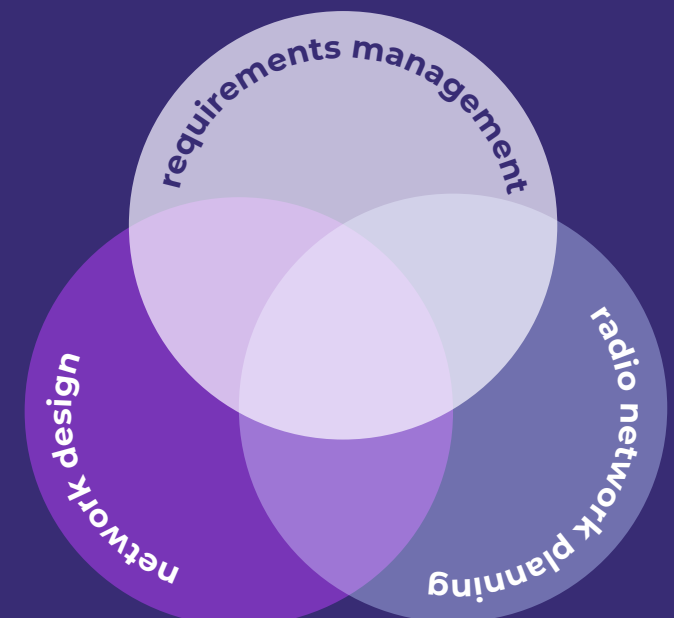
HMF provides you with an experienced team of highly specialised experts for network planning that is distinguished by its in-depth understanding of specific requirements for the 5G campus network and the associated individual requirements management. Private 5G campus networks can be optimally customised to your specific application requirements.

Particular focal points can include:

- Low latency times
- High data rates
- User-friendliness
- Cost awareness
- Additional functionalities (e.g. edge computing, MCX, etc.)

Our specialists help you define your individual user profile in order to optimally utilise the wide range of possibilities of a 5G campus network for you. HMF creates your customised network design on this basis. HMF can draw on a large and broad-based partner network - including a portfolio of various RAN and CORE manufacturers. So you can be sure that HMF will put together the ideal hardware and software combination for you.

The radio planning experts at HMF can precisely simulate the performance and radio coverage of your future network in advance based on building and environmental data (radio network planning). HMF uses highly specialised radio planning tools for this purpose. With the help of AI-based optimisation algorithms, the purchase and operating costs of a 5G campus network can be reduced to a minimum.



### 5G CONFIGURATION: YOUR CUSTOMISED NETWORK

5G technology makes it possible to adapt the performance of a network specifically to your own applications. Whether your focus is on the data rate, latency, battery life or network coverage: With customised

configuration in the Radio Access Network (RAN) and in the core network, you can exploit the full potential of your network. The HMF team is on hand to advise you.

### SETUP AND ACCEPTANCE: OPTIMISATION OF YOUR 5G NETWORK

HMF Smart Solutions takes care of setting up your network - even outside Germany. That's why we have an extensive partner network in Europe. We are also happy to support you in applying for the necessary licences for network operation. After setup and commissioning, we carry out walking test measu-

rements to verify the planning carried out in advance and, if necessary, adapt it to local conditions and any recent changes. This involves recording geolocalised parameters such as data rates, latency times, reception performance (RSRP) and interference performance (SINR).



### HMF SMART SERVICES

Offering comprehensive services and intensive support to our customers is a key concern for us, as we see ourselves as a holistic solution provider.

With an approach that goes far beyond conventional supplier relationships, we network worldwide in order to forge innovative and efficient partnerships. Our mission at HMF is to develop customised solutions for and with you and to be a reliable, long-term and high-performance partner for you - from planning and implementation to individual support through tailor-made services (both through remote operations worldwide and local technical support directly on site).

#### Response and service times

HMF Smart Solutions offers you an extensive 5G service network. Depending on your needs, we offer on-call support 24 hours a day, 7 days a week or during business hours.

After commissioning, we offer you support for the infrastructure and end-user systems, tailored to a customer-specific service level agreement (SLA). This ensures that your 5G system remains reliable and permanently operational. Our comprehensive range of support services will meet the individual needs of your 5G application scenarios.

#### Education & Training

Let our engineers familiarise you with 5G technology on site. Our experienced experts will advise you on the development of employee skills in all phases of project implementation and on ongoing training measures in the operation of your 5G campus network. We will put together an optimally tailored training programme for your team.

### TEST THE 5G SMART BOX NOW

Experience professional communication in a completely new dimension with the 5G Smart Box from HMF - a comprehensive, fully autonomous and powerful private 5G radio system. This stand-alone solution opens up almost limitless application options. Discover the benefits of 5G for yourself and test the 5G Smart Box from HMF.

The 5G Smart Box contains an indoor or outdoor base station (as required), a 5G core, several smartphones, a 5G modem for connection to a PC and a 5G-capable video camera. You also receive an app which allows you to evaluate data rates, latency times and signal quality. An HMF member of staff will accompany you throughout the entire test period and will be on hand to answer any questions you may have.



Would you like to test the 5G Smart Box now? Then contact us directly or email [5G@hmf-germany.com](mailto:5G@hmf-germany.com).