



Get your ideas ready for a smarter world with services and solutions from the global 7Layers group

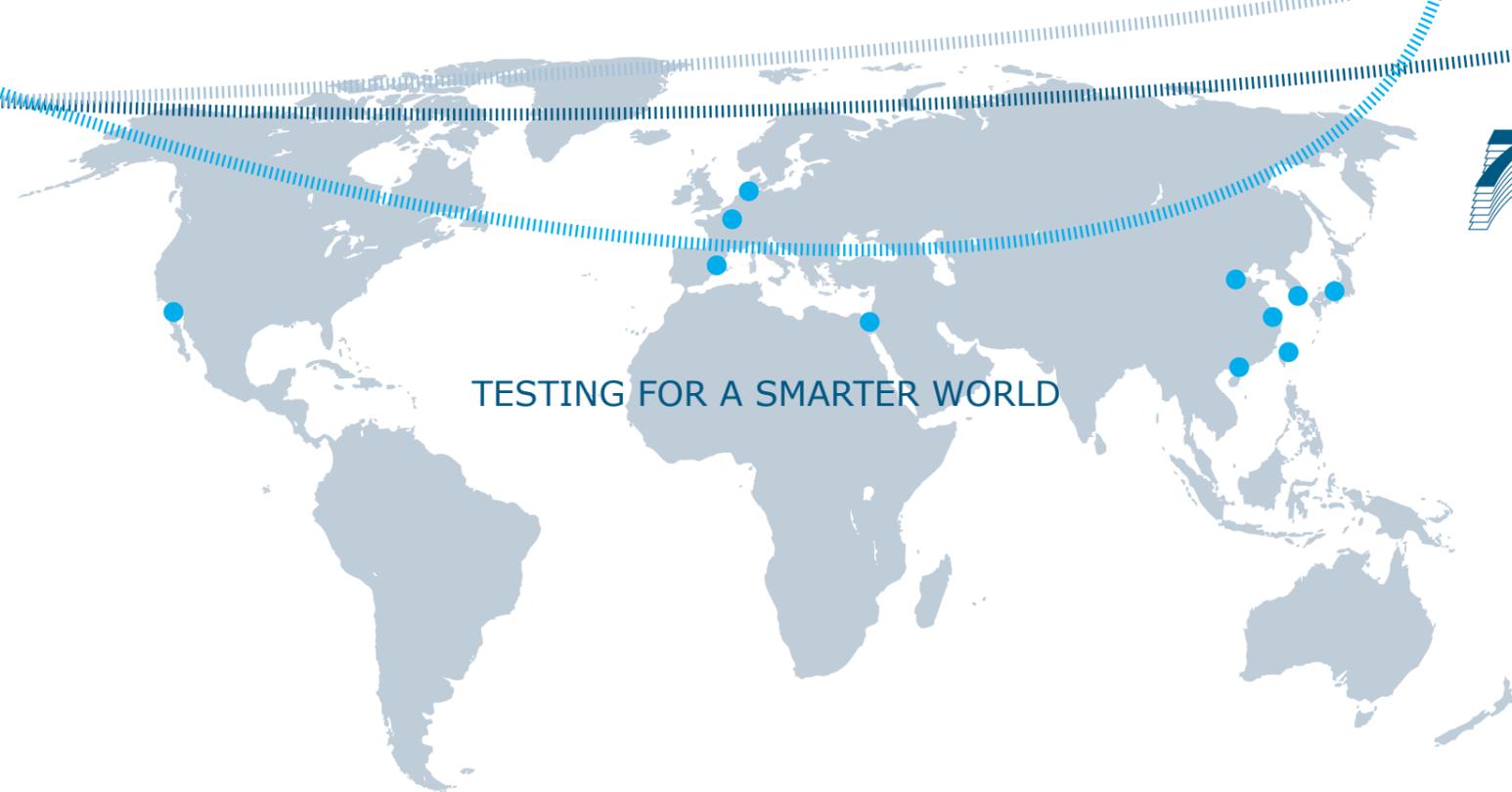
7LAYERS TESTING FOR A SMARTER WORLD

Test House | Systems House | Software House

Build your success in the global wireless communications market on our reliability and experience

Worldwide growth rates for mobile communications products and services have been immense during the last decade. In the industrial countries it is now a matter of course for people to have access to a mobile phone, smart phone or wireless internet, and emerging nations are gaining ground fast.

However, the future requires us to be more economical with worldwide resources, whilst at the same time people would like to live a healthier life with more convenience and spare time and a higher level of security. The wish list doesn't end there and neither does the role that wireless technologies can play in such a "smarter world" scenario.



- Ratingen, Germany
- Paris, France
- Bilbao, Spain
- Tel-Aviv, Israel
- Beijing, P.R. of China
- Taipei, Taiwan
- Suwon Si, South Korea
- Yokohama, Japan
- Irvine, USA

TESTING FOR A SMARTER WORLD

7Layers has engineering and test centers in Europe, P.R. China, S. Korea, Japan and North America with many years experience in wireless technologies. Since 1999, we have been supporting mobile device manufacturers, module and chip-set suppliers as well as network operators, service providers and industry interest groups such as PTCRB, Bluetooth® SIG or GCF. More recently, the number of projects for the so-called M2M industries, such as wireless health, mobile payment, automotive etc., has increased significantly. The world is going wireless and the development of our company reflects this trend.

INTERLAB® SOFTWARE COMPONENTS AND APPLICATIONS

7Layers has many years experience with almost all wireless technologies. Our engineers have been working together with major technology leaders in the industry since the mid-80s. During this time, the complexity of mobile communications products and services has increased enormously, making it impossible to develop and test products efficiently without the support of sophisticated, systematic processes.

7Layers' response to the growing complexity of wireless communications products has been the development of the **InterLab® Software**. This consists of adaptable, web-based components and applications that can be integrated in existing processes to improve **product requirements management, testing, test lab management**, test plan generation, etc. It is also used as a basis for the development of automated, user-friendly **test solutions**. For technical committees, it provides a systematic way of defining and managing relevant product requirements and test criteria.

Our InterLab® Software System is currently used as a webbased test & certification portal by large telecommunications test labs and by the PTCRB. Our own and our clients' test solutions have been developed on the basis of InterLab® software components.

TEST SOLUTIONS

Since our software components are especially designed to handle complex test situations, it was a logical step to develop test systems for complicated, niche test requirements such as the **InterLab® Test Solutions LTE-USIM/USAT, 3G USIM/USAT, Bluetooth® Low Energy, TTY**. Recently, we launched a completely new product, the **"InterLab® Feature Explorer"**, which accurately identifies the product features of wireless devices with integrated GSM, W-CDMA or LTE technology. The "InterLab® Feature Explorer" enables the reliable, automated creation of test plans, test system configurations etc.

ENGINEERING SERVICES

Over the years, we have witnessed how GSM-family technologies have been positively influenced by standardization rules laid down by the European Union. 7Layers has already been involved in supporting industry groups in setting up these standardizations.

Standardization ensures that products and services work according to common principles. This makes it more difficult to differentiate between products, but it also ensures interoperability, which leads to improved market acceptance and market penetration. Whilst the GSM-family benefited immensely from standardization, there are as yet hardly any comparable rules for M2M products and applications.

However, for applications such as wireless health or mobile payment, it is critical to fulfill market expectations regarding security, reliability, functionality and interoperability if they are to become a success in a smarter world. 7Layers supported the GCF with the development of specifications for product development and testing, as well as the TAAB and later on the Bluetooth® SIG with the development of qualification programs.

Companies developing smart services and products can rely on our expertise for **development and validation of certification test programs, test specifications, test cases, test systems** etc. in order to make the quality of their high-level M2M applications and devices measurable, provable and/or certifiable. Based on our technology expertise, proven software tools and years of experience, industries also rely on our **consultancy services on radio technology issues, requirements management, market access requirements** as well as the more practical aspects of antenna and/or module integration.

TEST & MARKET ACCESS SERVICES

Major mobile communications industry players have been relying on our state-of-the-art test & market access services for years. We now support all industries involved in launching products with integrated wireless technologies. For example, in Germany major automotive industry players use 7Layers type approval services.

For our **global type approval services** we have built up a comprehensive data base containing all the necessary information regarding legal requirements for almost all countries worldwide.

A well-established, international network of trustworthy partners and test labs enhances the reliability of our services.

To remain up-to-date with **certification requirements** at all times, we have been a member of such steering committees as the PTCRB, GCF and Bluetooth® SIG for years. Clients can rely on us to guide their products through the respective certification processes successfully. For their new applications and services, M2M industries are beginning to develop similar certification schemes (e.g. Mobile Health Alliance) in which 7Layers will participate.

The 7Layers test laboratories are accredited by DAkkS (ISO 17025) and PTCRB. The services we provide are in accordance with ETSI, FCC, R&TTE, Bluetooth® SIG etc. However, our test services do not only include conformance testing and EMC testing necessary for certification and type approval.

We also offer pre-compliance testing, benchmark testing, OTA testing, antenna testing, interoperability & field testing and application testing.

Such services do not necessarily follow a high level of standardization. It is therefore especially important for our clients that they can rely on our systematic test processes and highly qualified test personnel for reliable and reproducible test results, combined with analysis support if required.

Currently we cover technologies such as GSM-family, W-CDMA, HSPA, LTE but also Bluetooth®, W-LAN, GPS, WiFi, NFC, JAVA, TETRA etc.



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