

MARKET Briefs

Executive Summaries of Market Trends and Opportunities in Key Market Segments and Regions Worldwide



ENGINEERING SERVICES

by Virgil Labrador

The satellite industry is an engineering-driven industry. It has a storied history of cutting edge innovations that have produced groundbreaking products and services that have impacted our lives in a major way. Given this pedigree, satellite companies who have demonstrated success in their enterprise are offering engineering services to other companies who may not have the level of expertise needed to develop and launch a product or service quickly in the market.

The satellite industry is now at a major

crossroads. There are many challenges ahead, but there are also opportunities in key segments such as 5G, Internet of Things, mobility and other applications. As applications become more complex, the market is demanding more tailored solutions to meet competitive environments. Many companies offer engineering services but it is important to work with the right company that can deliver on its promises. If you do find the right company, it will save precious time of having to re-engineer everything and you can benefit from the learned experiences of an established company.

What to Look for in an Engineering Services Company

It's important to look at the track record of a company offering engineering services. Specifically, look for a company that nurtures creativity and drives innovation. Look at their products and see how well they are engineered and their record of performance and reliability. And most importantly, look at the company's reputation in the industry: is it known for the quality of its products or as a low-cost provider? You should check the company's financial metrics as well. A company that is underperforming or struggling may not be the best partner for your business.

One company that meets these criteria is WORK Microwave based in Holzkirchen, Germany. WORK Microwave is a leading company in RF technology with a proven track record of success and reliability. "We're excited to announce that WORK Microwave is sharing its more than 30 years of experience in satellite communication, navigation simulators, defense electronics, and sensors and measurement with customers in a whole new way," said the company's CEO, Dr. Thomas Fröhlich.

Offering engineering consultancy services, WORK Microwave provides you with direct access to technology know-how, design experience and engineering creativity. The same teams that designed its cutting-edge products are available to support your project, create a solution that addresses your problem and bring fresh, innovative ideas to your system design.

"...Choosing the right partner is essential in meeting the many challenges and complex requirements of the new satellite systems..."

Maximizing 5G Opportunities for Satellite

One of the most promising areas for satellite technology is in the rollout of 5G networks. 5G is a disruptive technology that is set to transform wireless connectivity, enabling ultra-fast broadband speeds, increased efficiency, reduced network costs, and more scalability, among a wide range of other benefits that will open up new markets and drive technology innovation. And 5G comes at the perfect time. The number of connected devices that are in use worldwide now exceeds 17 billion, according to the latest research from IoT Analytics. With 5G, the industry can better address today's connected world and its growing connectivity requirements.

What's Your Role in the 5G Future?

Satellite communications will be an essential part of the 5G infrastructure, with LEO and MEO constellations used to offload networks, reach areas where there is no terrestrial connection, and reduce end-to-end network latency. 5G will be a network of networks — an ecosystem that leverages fiber and

terrestrial networks, complemented by satellite connectivity, as needed. The possibilities are endless for the role that satellite can play:

- Complementary connectivity for broadband delivery to homes and enterprises
- Fixed backhaul for remote areas
- Mobility backhaul for transportation applications, including connected cars, airplanes, trains and maritime
- Autonomous vehicles
- Telemedicine
- Smart cities
- Intelligent manufacturing
- Government infrastructure
- Science missions
- Earth observation

"5G is set to have a huge impact on the satellite industry, and we're here to help operators make the most of those opportunities," said Dr.-Ing. Günter Prokoph, Chief Technology Officer at WORK Microwave. "With 30 years of experience in high frequencies and digital signal processing, WORK Microwave is in a unique position to provide satellite and 5G related engineering services. Leveraging our breadth of industry expertise spread across four product divisions, including Satcom, Defense Electronics, Navigation Simulators, and Industrial Process

Sensors, operators can design innovative solutions for LEO/MEO constellations that are a critical part of the 5G infrastructure," said Dr. Thomas Fröhlich.

"5G is just on the horizon and we at WORK Microwave want to help our customers capitalize on the

exciting opportunities in store for the satellite market. With more than 30 years' experience in building Satcom solutions and an extensive understanding of networks and RF technology, WORK Microwave can help you navigate the 5G future," added Fröhlich.

"Our world-class engineering solutions team are a valuable resource for satellite operators that want to deploy LEO/MEO constellations and play a pivotal role in the 5G environment. Our team is experienced in both satellite and 5G related technologies. With a foothold in both worlds, we can help you design cutting-edge products and support your project across all phases, from concept to production. Whether you need help launching new constellations, designing a customized Satcom solution, exploring applications for 5G, or ensuring interoperability with ecosystem vendors, we've got your needs covered," said Prokoph.

"We have extensive expertise in developing electronics and software to manage, analyze, convert, and process data and waveforms. Our software expertise ranges from ARM to PowerPC, x86, microcontrollers, applications and front-ends, embedded Linux, Userland, Kernel drivers, Buildroot, OpenEmbedded, Yocto, with experience in multiple languages (i.e., C/C++, C#, Javascript, Java, Perl, Python, Javascript, Lua, Delphi/Pascal, HTML, CSS).

We're also specialists in digital signal processing and designing RF PCBs and modules, delivering schematics, layouts and assembled modules of analog and digital hardware. Need help with high-


speed digital circuitry for busses and memories? No problem. We've handled everything from integration of exceptionally large FPGAs, RF frequencies up to 75 GHz, PCB boards up to 20 layers, and everything in between," said Prokoph.

"Bringing efficiency to embedded software is in our DNA. With WORK Microwave, you can maximize the impact of 5G on your satellite business," said Fröhlich.

Conclusion

It is important to find a trusted partner with a strong reputation for quality products and services. This will save valuable time and resources that could be better spend in other areas such as marketing

your product. Understanding a partner's capabilities and limitations can reduce the amount of time spent finding an appropriate manufacturer who can design and build to specifications. The best company to work with is one that will take on all the engineering responsibilities and free you to do other important tasks.

It is important to thoroughly research the company and ensure that they have a track record of innovation. Choosing the right partner is essential in meeting the many challenges and complex requirements of the new satellite systems coming in the next few years and the key applications driving these systems. 

View a video tour of WORK Microwave's brand new headquarters and manufacturing facility at:
www.satellitemarkets.com/work-microwave-2019



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- Research and explore technological solutions.
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