



STRATEGIC BRIEF

The European market for Aerospace, Defense & Security Electronics

Why EMS providers should position themselves now

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The European market for Aerospace, Defense & Security Electronics (ADS) is undergoing a fundamental transformation. Rising defense budgets and the political drive for greater technological sovereignty are increasing demand for European manufacturing capacity and secure supply chains.

For EMS providers, this creates opportunities to enter new business areas and differentiate themselves through specialization, technological expertise, and manufacturing quality. However, entering the ADS market requires the ability to meet higher requirements for processes, qualifications, documentation, and traceability.

1. Market dynamics and strategic drivers

The development of the European ADS market is currently shaped by three main factors. European states are significantly increasing their defense spending. At the same time, political pressure is growing to secure critical manufacturing capabilities and technical expertise within Europe. In parallel, demand is increasing for technologically sophisticated systems used in reconnaissance, communications, radar, and defense applications.

For EMS providers, the strategic significance lies not only in the growth of the market itself. ADS offers an opportunity to broaden the business model and reduce dependence on highly price-driven markets.

This requires specific capabilities in manufacturing, quality assurance, documentation, traceability, and, where applicable, the handling of security-related requirements. EMS providers that develop these capabilities systematically can differentiate themselves through specialization, reliability, and technological expertise rather than competing primarily on manufacturing cost.

2. Core segments of defense electronics

The ADS market encompasses a wide range of applications with significantly different requirements. The following segments are particularly relevant for EMS providers:

- **Drones and unmanned systems:** Small to medium production runs with high requirements for reliability, weight, size, and, in some applications, environmental resistance
- **Secure communication systems:** High requirements for reliability, data integrity, documentation, and, depending on the application, security and protective measures
- **Radar and sensor systems:** High technological complexity, sophisticated electronic assemblies, and, in some cases, specific requirements for the manufacturing environment and process control
- **Avionics:** Very high requirements for quality, reliability, documentation, traceability, and product-specific qualification

3. ADS Manufacturing Compared with Classic EMS Manufacturing

Entering the ADS sector is more than simply adding another product group to existing production lines. The requirements for quality, documentation, traceability, and process control can have a significant impact on the overall production organization.

The difference becomes clear in a direct comparison:

Category	Classic EMS manufacturing	ADS-Electronics
Production volumes	Depending on the market, from small series to high-volume production	Often smaller production runs and a high degree of product variety
Product life cycle	Depending on the product, from short to long	Often long product and spare-parts life cycles
Reliability	Product- and application-specific requirements	Very high requirements, depending on the application and operating environment
Traceability	Standard batch and production documentation	In some cases, end-to-end traceability down to component and process level
Documentation	Standard product and quality documentation	Extensive technical and quality-related documentation
Qualification	Depending on product and market	Depending on the product and application, significantly higher qualification and verification requirements
Manufacturing	Strong focus on efficiency, flexibility, and reproducibility	Greater focus on process control, reproducibility, and demonstrable process compliance

Assessment

Entering ADS manufacturing is not simply a quality upgrade compared with classic EMS manufacturing. It changes the requirements for processes, documentation, qualifications, and, in some cases, the organization of the EMS provider.

EMS providers seeking to enter this market should therefore treat ADS as a distinct business area and systematically develop the required capabilities, processes, and investments from the outset.

4. Strategic opportunities for EMS providers

Differentiation through specialization:

Manufacturing sophisticated ADS electronics requires specific processes, qualifications, and experience. These capabilities can create clear differentiation from traditional volume manufacturers and establish higher barriers to entry over time.

Deeper integration rather than pure assembly:

In the ADS sector, cooperation between OEMs and EMS providers is often closer than in standardized volume production. Requirements relating to manufacturing processes, quality, documentation, and change management can result in greater integration of the EMS provider into the customer's value chain. This can support long-term customer relationships.

European manufacturing as a strategic advantage:

In a market where supply security, technological sovereignty, and controlled supply chains are becoming increasingly important, a European manufacturing location can provide a significant competitive advantage. Depending on the program, additional requirements relating to location, data handling, supply chains, or national security interests may also play a role.

5. Necessary investments

Building an ADS business typically requires investment in several areas:

- **Processes:** Adaptation and further development of manufacturing and quality processes to meet the requirements of specific customers and programs
- **Qualifications and certifications:** Establishment of the relevant certifications, qualifications, and other required evidence for the target markets and customers, such as AS9100 or customer-specific and NATO-related requirements such as AQAP
- **Personnel:** Qualification of employees for manufacturing, testing, documentation, and the handling of sophisticated electronic assemblies
- **Infrastructure:** Enhanced systems for traceability, documentation, quality assurance, information security, and, where applicable, specific security requirements
- **Export control:** Consideration of export control requirements and any necessary approvals, particularly for internationally deployed products and components
- **Supply chain:** Development of suitable and resilient supplier structures for critical components and materials

The actual investment required depends significantly on the target ADS segment, customer requirements, and the existing maturity of the EMS provider.

Conclusion and recommendation

The European ADS market offers EMS providers interesting opportunities for strategic development. However, entering this market should not be justified solely by the prospect of higher margins. The key factors are the long-term direction of the business model, existing capabilities, and the willingness to invest in the necessary processes, qualifications, and infrastructure.

A step-by-step approach is advisable. The starting point should be a realistic assessment of existing capabilities and the target customer segments. Based on this assessment, the necessary certifications, process adaptations, personnel qualifications, and investments can be developed systematically.

EMS providers should therefore not view ADS as a short-term additional business opportunity. Companies seeking to establish themselves in this market should develop ADS as a clearly defined business area with a focused strategic objective and a realistic development plan.

About the Author

Dirk Kaussen is Founder and Managing Director of EMS Strategy Group. With around 40 years of experience in the electronics industry — including founding and managing his own electronics manufacturing company in Germany — he brings deep expertise in manufacturing processes, EMS partner selection, supply chain stability, relocation projects, and risk management. His approach combines practical solutions with a direct connection to industrial reality.

About the EMS Strategy Group

EMS Strategy Group supports industrial enterprises in the strategic and operational advancement of their electronics manufacturing. Our core expertise lies in the strategic relocation of manufacturing volumes, the selection of qualified EMS partners, the establishment of new production capacities, and the expansion of existing manufacturing structures.

Furthermore, we design resilient supply chain frameworks, conduct comprehensive risk assessments, and guide dual-sourcing strategies, with operational support through to a successful series production ramp-up.

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