Security Technologies Industry
R&D Cooperation and Business Partnering Opportunities in Germany

Europe’s Largest Security Technologies Market
In an increasingly globalized world, risks and threats are spreading more rapidly than ever before. Consequently, security technologies are becoming ever more important in the safety and security of people’s lives and business infrastructures.

The global security technologies market was estimated at EUR 100 billion in 2010. With overall turnover of almost EUR 20 billion, the German security technologies industry is the largest in Europe. In Germany alone, the overall security technologies industry is expected to increase to EUR 31 billion by 2015 – equivalent to an annual growth rate of six percent. Security technologies “made in Germany” enjoy strong global brand recognition thanks to their ascribed characteristics of quality and technical know-how. State-of-the-art technology and high system competence levels are similarly helping drive security technology industry success – in both domestic and international markets. Close working partnerships (between the private sector and academic research institutes) are likewise contributing significantly to a growing market sector with stable long-term growth opportunities.

R&D Cooperation Success
German-based security technology companies are at the forefront of technological development and benefit from the country’s unique research environment. A thriving R&D sector provides the basis for the economic success of the German security technologies industry. Close interaction between industry and science guaranteed by the provision of a number of specialized security technologies industry networks form the basis for quick time-to-market realization of innovative products and services.

Business Partnering Success
Innovative research and timely product commercialization are the driving force behind the international success of security technology companies located in Germany. Companies profit from a platform of available business partnering models for increased market partnering effects; thereby ensuring the continued development of high quality products at affordable prices.
Market Opportunities

Market Growth: Primary Technology Segments

The German security technologies market can be subdivided into eight different segments; of these, the IT Security, Identification & Authentication and Hazardous Substances sectors are expected to record significant market increases in the immediate future.

IT Security
The IT security segment consists of IT products and services designed to ensure the confidentiality, availability, and integrity of data (i.e. anti-virus software, remote access, content filtering, mobile security, identity management et al.). This segment is expected to generate turnover of EUR 10.6 billion by 2015 (equivalent to 12 percent annual growth rate).

Identification & Authentication
This segment includes all systems and technologies used to verify personal identity. It is estimated that the German market will grow to EUR 1.7 billion by 2015, with an above average yearly growth in leading subsegments including biometrical identification cards (15 percent) and forgery-proof systems (10 percent).

Hazardous Substances
This segment refers to all innovations used to detect and classify hazardous substances. It is estimated that the German market will generate annual turnover of EUR 1.2 billion by 2015. Exceptionally high demand is foreseen for sophisticated chemical and biological analytic systems.

Value Chain Growth: Interdisciplinary Technologies

The sheer diversity of existing possible applications available means that a number of technology segments cannot be exclusively assigned to the security technology industry. However, they do have a crucial effect on functionality and performance of components for engineering security and safety products. Three segments which are expected to record significant midterm growth are the Measurement and Sensors Technology, Biometrics and RFID sectors.

Measurement and Sensors Technology
German companies active in this field enjoy an international market share of 30 percent; achieving average annually growth of nine percent over the last 10 years. This accretion will continue with a forecast growth of between 8 percent and 12 percent in the medium term.

Biometrics
German companies hold an internationally leading position in this segment, generating turnover of around EUR 300 million in 2010. Biometrics technology helps create new applications particularly in the access control management sectors. Fingerprint recognition remains the most important technology, with facial recognition gaining in importance.

RFID (Radio Frequency Identification)
According to Deutsche Bank Research, global RFID sales will grow annually by 25 percent and reach a volume of EUR 16 billion in 2016. In Germany alone RFID sales are predicted to reach EUR 2.2 billion in 2016. This cross-sectional technology will influence various industries in making operational processes more efficient.
### Selection of Security Technologies Associations and Networks

<table>
<thead>
<tr>
<th>Number</th>
<th>Association/Network</th>
<th>Location</th>
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<tbody>
<tr>
<td>01</td>
<td>bavAIRia – Bavarian Aerospace Cluster</td>
<td>Gilching</td>
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<tr>
<td>02</td>
<td>Bavarian IT – Security &amp; Safety Cluster</td>
<td>Regensburg</td>
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<tr>
<td>03</td>
<td>BHE – National Association of Manufacturers and Installers of Security Systems</td>
<td>Brücken (Pfalz)</td>
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<tr>
<td>04</td>
<td>BITKOM – Federal Association for Information Technology, Telecommunications and New Media</td>
<td>Berlin</td>
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<td>05</td>
<td>CAST – Competence Center for Applied Security Technology</td>
<td>Darmstadt</td>
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<td>06</td>
<td>KOSYnet – Competence network integrated systems for flood and disaster control</td>
<td>Potsdam</td>
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<td>07</td>
<td>EASC – European Aviation Security Center</td>
<td>Schönhagen</td>
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<tr>
<td>08</td>
<td>eurobits – European Competence Centre for Information Technology Security</td>
<td>Bochum</td>
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<td>09</td>
<td>Future Urban Security</td>
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<td>10</td>
<td>GESA – German European Security Association</td>
<td>Potsdam</td>
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<td>11</td>
<td>GFPA – German Fire Protection Association</td>
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<td>12</td>
<td>SeSamBB – Security and Safety made in Berlin-Brandenburg</td>
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<td>13</td>
<td>Secure Identity Berlin-Brandenburg</td>
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<td>14</td>
<td>SPECTARIS – German Industry Association for Optical, Medical and Mechatronical Technologies</td>
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<td>15</td>
<td>TeleTrusT – IT Security Association</td>
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<td>16</td>
<td>Tusec – Tunnel Safety and Security Network</td>
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<tr>
<td>17</td>
<td>VDE – Association for Electrical, Electronic &amp; Information Technologies</td>
<td>Frankfurt</td>
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<tr>
<td>18</td>
<td>VfS – Association for Security Technology</td>
<td>Hamburg</td>
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<tr>
<td>19</td>
<td>ZVEI – Central Association for Electrical and Electronic Industry</td>
<td>Frankfurt</td>
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**Research & Development Landscape in Germany**

Germany provides a unique opportunity for companies active in the security industry. The country has long been successful in harboring high-tech industries because of its highly developed R&D landscape – creating optimal conditions for the commercialization of first rate innovations.

- In 2010, German R&D expenditures rose to an all-time high of 2.82 percent (EUR 69.7 billion) of national GDP. The EU-27 average is around two percent (2010).
- Germany is home to 415 universities with world class scientific research institutions.
- Over 12,000 patents granted by the European Patent Organization (EPO) to companies based in Germany in 2010 (No. 1 worldwide).

**Strategic Alliances**

Several associations, networks, clusters, R&D institutes and companies are dedicated to exploring and promoting the possibilities of security technologies and their potential product applications. Germany holds the key to success for your security technologies business because of its R&D strength and diverse industrial landscape – providing perfect opportunities for innovation, alliances and collaborations.
Institutional R&D Partners

Leading research institutes active in security-related research fields in Germany include, among others, the research institutes of the Fraunhofer Society and the German Aerospace Research Center. Together with internationally renowned universities, they form the basis for the development of innovative technologies deployed in the security technology industry. Companies investing in Germany also benefit from joint-research opportunities which help ensure cost-effectiveness and short time-to-market periods.

### R&D Focus

- Communication Equipment
- Computing Technologies
- Electronic Authentication
- Forensic Technologies - Biometry
- Information Security Technologies
- Information Systems
- Navigation, Guidance, Control and Tracking
- Sensor Equipment and Technologies

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This list is not intended to be exhaustive. For more information on Germany’s security technology research landscape, please visit our website www.gtai.com/security or contact: jerome.hull@gtai.com

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Business Partnering Opportunities

The display table shows companies already located in Germany and actively engaged in security-related research fields. Germany’s mature and highly diversified industrial landscape allows for diverse partnering opportunities. This helps reduce the risks normally associated with new, high-tech innovations. Specialist knowledge and core competences can be better integrated as different industry players and segments become active along the value chain.

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