**Business Proposal Report**  
**Title**: Establishing a Secure IoT Device Auditing Firm  
**Module**: CSEC5004 - Digital Forensics with Legal, Ethical and Research Methods  
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**1. Executive Summary**

As the number of Internet of Things (IoT) devices continues to rise, security risks associated with them have become a critical concern. This proposal introduces a Secure IoT Device Auditing Firm that will offer security assessments, penetration testing, forensic auditing, and compliance evaluation services specifically tailored for IoT ecosystems. The firm aims to bridge the gap between innovation and security in a rapidly expanding technological landscape.

**2. Introduction**

IoT devices are increasingly integrated into both personal and industrial environments, from smart homes to critical infrastructure. However, most of these devices are deployed without thorough security audits, leaving them vulnerable to attacks. This firm seeks to provide a dedicated service that assesses these vulnerabilities and ensures regulatory and security compliance.

**3. Business Idea Overview**

* **Name**: Secure IoT Device Auditing Firm
* **Type**: Cybersecurity service provider
* **Target Market**: Smart device manufacturers, healthcare tech firms, smart home providers, industrial IoT users
* **Core Services**:
  + IoT penetration testing
  + Firmware analysis
  + Network traffic monitoring
  + Legal and compliance reporting
  + Digital forensics for post-incident investigations

**4. Objectives**

* To ensure IoT devices comply with cybersecurity regulations like GDPR, NIS2, and ISO/IEC 27001.
* To reduce the risk of cyberattacks targeting IoT networks.
* To provide clients with forensic-grade auditing and incident reports.
* To raise awareness and educate manufacturers on secure development practices.

**5. Market Research**

A survey by Statista shows over **30 billion IoT devices** projected by 2030. Despite this growth, over **57% of IoT devices are vulnerable** to medium or high-severity attacks (Unit42, 2023). Currently, few firms specialize solely in IoT security, leaving a gap for a niche and focused solution provider.

**6. Services Offered**

| **Service** | **Description** |
| --- | --- |
| Penetration Testing | Simulate attacks to identify vulnerabilities in IoT hardware/software. |
| Firmware & Code Audits | Analyze source code and firmware binaries for hidden flaws. |
| Network Security Audits | Inspect communications between devices for insecure protocols. |
| Legal & Compliance Consulting | Assist companies in meeting international cybersecurity standards. |
| Digital Forensics | Provide reports after incidents, identifying exploited vulnerabilities and attack vectors. |

**7. Legal and Ethical Considerations**

* Ensure full **GDPR** compliance for all data collected during audits.
* Operate under **ethical hacking** guidelines with client consent.
* Employ licensed forensic analysts and follow chain-of-custody procedures for evidence.
* Offer **NDAs** and service-level agreements (SLAs) to protect client confidentiality.

**8. Methodology**

* Use **Nmap, Wireshark**, and custom scripts for vulnerability scanning.
* Conduct **black-box and white-box testing** on physical IoT devices.
* Use legal tools like **EnCase** or **Autopsy** for forensic investigations.
* Provide detailed **risk assessment reports** with CVSS scores.

**9. Competitive Advantage**

* Specialization in IoT — unlike general cybersecurity firms.
* Use of both **automated tools and manual testing** for deeper insight.
* Forensics expertise enables post-breach investigation support.
* Early compliance support helps reduce future liabilities.

**10. Financial Plan (Initial Phase)**

| **Category** | **Estimated Cost** |
| --- | --- |
| Hardware Lab (IoT devices, routers, etc.) | $5,000 |
| Software Licenses & Tools | $3,000 |
| Office Setup & Infrastructure | $7,000 |
| Legal & Compliance | $2,000 |
| Marketing & Website | $1,500 |
| **Total Initial Investment** | **$18,500** |

**11. Future Outlook**

The firm will eventually offer SaaS-based continuous monitoring, expand to **AI-integrated threat prediction**, and build **a global client base**. Partnerships with universities and certification bodies will help build credibility.

**12. Conclusion**

This Secure IoT Device Auditing Firm aligns with growing market needs and addresses a severe gap in IoT security and compliance. With a technically skilled team, legal knowledge, and focused vision, the business is positioned for success in the digital forensics and cybersecurity domain.