30 YEARS AMERICAN CHAMBER OF COMMERCE IN BULGARIA

Sensata Technologies

AmCham Bulgaria Hackathon 2025

February 26 – April 10, 2025

Business case

Develop a Digital Daily Management System (DDMS) to automate and streamline the flow of production data, focusing on data collection, storage, and visualization through a web app and Power BI reports.

ASSIGNMENT CONTENT

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The goal of this project is to develop a Digital Daily Management System (DDMS) that automates and streamlines the flow of production data, enhancing decision-making and operational efficiency. The system should facilitate real-time data collection from production lines, ensuring accurate and timely insights for administration and management. The project will involve designing an effective data architecture, developing a web-based platform for data input and visualization, and integrating Power BI for advanced reporting.

Students will work through all phases of the development process, including selecting data collection methods, structuring the database, and building an intuitive user interface. A key focus will be ensuring the system supports the needs of different stakeholders, from production operators to senior management. The solution should leverage automation and AI to improve data accuracy and provide predictive insights. Additionally, security, scalability, and user experience should be taken into account when designing the system.

By the end of the project, students will present a functional prototype showcasing data collection, storage, and visualization capabilities, along with a strategic plan for full-scale implementation.

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MENTORS:

- Antoaneta Petrova (Leader)
- Stefan Ruskov (Mentor)
- Stoil Stoilov (Mentor)

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TECHNICAL REQUIREMENTS:

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- Develop a structured data model to capture key production metrics.
- Implement a web-based interface for real-time data input and visualization.
- Utilize Power BI for dynamic dashboards and reporting.
- Ensure data security, access control, and scalability.
- Integrate AI or machine learning for predictive analytics (optional but recommended).
- Follow Agile methodologies for iterative development and testing.

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Skills to be developed

- Agile Project Management & AI integration
- Data modeling and structuring
- Design Thinking for user-centered solutions
- Power BI / PowerApps for data visualization
- Teamwork and collaboration
- Strategic thinking for system implementation
- Communication, presentation, and leadership skills