

# Automation and IoT for controlling and analysing the growth of crops in agriculture

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# Introduction

- This study is aimed at presenting modern automation systems and the Internet of Things in an agricultural complex. The paper provides an overview of the available technologies in world practice, and also discusses the development of the “Scientific Production Firm “Sady Chechni” in the field of automation of production for monitoring and analysis of crop growth in the laboratories of the company.

# Literature Review

- A brief collection of application of IoT systems and technologies are mentioned, and the uses and advantages are analysed, also the benefits these technologies are and will be granting to the industry. Lastly, the challenges and barriers that are in the way of introducing or applying the technologies in every crop.

# Automation and IoT implementation

- Scientists of Scientific Production Firm "Sady Chechni", located in the Chechen Republic, Russia, are going to implement similar technology in their laboratories. This firm is engaged in research in the field of microclonal propagation of fruit crops. An automation system should accelerate and improve laboratory productivity, and the Internet of Things technology should make the monitoring and data collection process visual and convenient.

# Conclusion

- Data collection from crops, including environmental information, and qualities of the area like humidity, temperature, soil acidity and moisture, and crop monitoring in real time, with possibilities of remote control and automated analysis are available and can already increase the benefits and optimize processes for increase production and better results.