

## ***ABSTRACT***

### ***IMPLEMENTATION OF AES-256 SECURITY IN BUMDES FINANCIAL MANAGEMENT APPLICATIONS***

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#### ***Abstract***

Pangkalan Batang Village Village-Owned Enterprises (BUMDes) still use Microsoft Excel in the financial recording and reporting process. The use of spreadsheets is vulnerable to input errors, formula changes, and does not have adequate sensitive data protection mechanisms. This problem causes financial management to be less efficient and risks inaccuracies and information leaks. This research aims to design and build a website-based BUMDes financial management application that is more structured, efficient and secure through the application of the AES-256 encryption algorithm. The system development method used is the Web Development Life Cycle (WDLC) which includes planning, analysis, design, implementation, testing and maintenance stages. The system was developed using the Laravel framework and MySQL database, with the application of AES-256 Cipher Block Chaining (CBC) mode in the transaction description column to maintain data confidentiality without disturbing the nominal calculation process. The research results show that the system is able to increase the accuracy of recording, speed up the creation of cash flow reports, and provide protection for sensitive transaction data so that BUMDes financial management becomes more effective and safe.

***Keywords:*** BUMDes, Financial Information System, AES-256, Encryption, WDLC, Laravel.