EUROPEAN INFORMATION TECHNOLOGIES CERTIFICATION INSTITUTE, ASBL.

Brussels, Belgium, European Union

# CERTIFICATE

## Patryk Kowalski

Has successfully completed test requirements of
The European Information Technologies Certification Programme

## EITC/BI/SDBAMS Spreadsheets and databases in business applications (MSO Excel, MS Access)

**Certification Programme examination result:** 100%

**Certification Programme description:**

Creation of complex spreadsheets: usage of financial and mathematical analysis, reporting, subtotals, conditional commands, multi-level data grouping, pivot tables, VB language for building complex functions/macros in Excel: introduction to VB language (syntax, variables/constants, data segregation, queries, concurrent tasks, synchronization of events), implementation of simple VB scripts, modification and analysis of procedures, advanced use of Microsoft Access application: database building, reporting, queries, normal form of databases (first, second and third normal form), graphical representation of data: advanced reports, different types of trends, chart types, data migration, graphical analysis of data, integration of Microsoft Office solutions: integration with Microsoft Access and ODBC external data sources, data migration between Microsoft Office applications, authentication and access authorization to distributed systems with multiple Microsoft Office solutions (declarative and imperative authentication, declarative and imperative authorization), cooperation of .NET applications with Microsoft Office applications via COM, data intermediate storage files (e.g. CSV, XMS); optimization tasks: optimization models, statistical and variant analysis, solver - complex problem solving tool, optimization algorithms, discrete and continuous optimization

**Certificate Programme version/revision: EITC/BI/SDBAMSv1r2**

CERTIFICATE ID: **EITC/BI/SDBAMS/MDN/19004446**

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