



BAS4SC EDUCATIONAL PLATFORM

**BUSINESS ANALYTICS
SKILLS FOR THE FUTURE-
PROOF SUPPLY CHAINS**



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Introduction

The BAS4SC educational platform, *Business Analytics Skills for the Future-proof Supply Chains*, is hosted by Poznan University of Technology on Moodle and is available at enauka.put.poznan.pl. Its primary goal is to develop analytical competencies among students, academics, and other stakeholders, with a particular emphasis on business analytics and data analysis in supply chains. The BAS4SC project encompasses a competency needs analysis in logistics, the development and implementation of three educational courses, pilot testing to verify the usability of educational materials, and the organization of a student competition in partner countries to promote the practical application of acquired knowledge.

Three educational modules are available within the platform, under course ID 259. The first module, *Advanced Using Spreadsheets to Analyse Logistics Data*, focuses on advanced spreadsheet applications for logistics data analysis. The second module, *Business Intelligence*, presents tools and methods for analysing business data. The third module, *Statistical Methods for Analysing Logistics Data*, introduces participants to statistical methods used in logistics data analysis. In addition to these courses, the platform provides sections containing research articles and reports related to the project, enabling deeper theoretical and practical knowledge.

The platform targets students interested in data analysis in logistics, academics seeking to update their teaching materials in business intelligence and data analysis, and representatives of logistics companies aiming to develop employee competencies. The BAS4SC project is co-funded by the European Union under the Erasmus+ KA220-HED program and runs from October 1, 2022, to September 30, 2025.

The courses on the platform are offered in five languages; English, Polish, Croatian, Slovenian, and Serbian; enhancing accessibility for participants from various countries. This multilingual approach enables broad participation, promotes knowledge exchange, and supports the development of analytical skills across Central and Southeastern Europe.



BAS4SC Educational Platform – Overview of Courses and Teaching Materials

The BAS4SC project website, available at <https://bas4sc.put.poznan.pl/>, provides links to the electronic teaching platform, which compiles all materials developed as part of the project.

The first link directs users to the project results page, which includes publications, links to individual courses, and other project-related information. The next three links lead to the courses corresponding to outcomes C1, C2, and C3. The C1 course, titled *Advanced Using Spreadsheets to Analyse Logistics Data*, is available in five languages: English, Croatian, Polish, Slovenian, and Serbian. The C2 course covers *Business Intelligence*, while the C3 course addresses *Statistical Methods for Analysing Logistics Data*. All courses are offered in the same five languages, ensuring broad accessibility for participants from different countries.

Each course contains the same core elements and is organized in a uniform structure. The top section of the course includes an introduction, the textbook, a forum, and pre-tests that must be completed before starting the course. Further down, a downloadable file allows users to play the course in their own Moodle environment. Subsequent sections of the course include book chapters, lecture presentations, exercise files, and case studies. At the end of the course, participants can test their knowledge through final assessments.

Additionally, each course contains sections on the application of artificial intelligence tools in data analysis, spreadsheets, business intelligence, and statistical methods. The final section offers supplementary video materials and links to other open-access courses. Each course can also be downloaded as a backup *.mbz file and imported into a local Moodle environment, enabling participants to access and study all BAS4SC materials independently of the online platform. This functionality ensures full flexibility, allowing participants to learn anytime and anywhere.



Courses for Experienced Lecturers – Advanced Level

The courses offered on the BAS4SC platform are primarily intended for academic lecturers and professionals with experience in logistics, data analytics, and supply chain management. These are not introductory courses, so they do not focus on basic concepts such as spreadsheet fundamentals, introductory statistics, or general principles of business intelligence. Instead, the materials build on participants' existing knowledge, enabling them to develop skills at an advanced level.

The courses are both practical and substantive, presenting modern analytical tools, advanced data processing and visualization techniques, and specific application cases in logistics and supply chain management. This approach allows participants not only to consolidate their existing skills but also to acquire new competencies that can be immediately applied in teaching, research, or professional practice.

A distinctive feature of the BAS4SC courses is their strong emphasis on the practical application of knowledge and analytical tools in real-world logistics and business scenarios. Participants work with authentic datasets, analyse supply chain processes, and develop business models supported by modern technologies such as business intelligence and artificial intelligence. Each module is designed to enable independent application of acquired skills in teaching, research, or project work.

This methodology ensures that participants deepen their theoretical knowledge while also developing practical skills that are directly relevant to teaching, research, and everyday professional activities in the logistics and data analytics sectors. The focus on real-world application and advanced competencies makes the courses especially valuable for experienced lecturers and professionals seeking to enhance their expertise.



Course Structure and Interactivity

The BAS4SC platform employs a modular design, ensuring a clear and logical organization of learning materials. Each course is divided into modules, which are further broken down into sections and subsections, allowing participants to systematically absorb knowledge and navigate the course easily. Each module offers a variety of learning resources, including detailed presentations, textbooks, case studies, and practical exercises, enabling participants not only to learn theory but also to apply it in practice.

The platform emphasizes interactivity. Participants can use discussion forums to share experiences, ask questions, and collaborate with peers, fostering a scientific and practical community around the course topics. Courses also include pre-tests, which allow participants to assess their preparedness before starting a module, and post-tests, which evaluate knowledge gained after completion. This design supports active learning, facilitates progress monitoring, and helps identify areas that may require additional focus.

Overall, the course structure allows participants to learn flexibly, adapting the pace and depth of study to their individual needs and level of expertise.



Multilingual Platform and International Accessibility

The BAS4SC platform was designed with international users in mind, and all courses are available in five languages: English, Polish, Croatian, Slovenian, and Serbian. This allows participants to select the language that best suits their learning needs, enhancing comprehension and overall learning experience. Multilingual support applies to all course elements, including presentations, textbooks, practical exercises, case studies, and pre- and post-tests, ensuring that participants have full access to educational content regardless of the language version chosen.

This approach makes the platform fully international and promotes inter-university collaboration. Participants from different countries can access the same materials in their native language while exchanging experiences and knowledge, fostering networking among academic and professional peers. The platform's multilingualism also enables educational institutions in different countries to implement courses in their local language while using materials developed collaboratively as part of an international project.

Such a solution supports the standardization of teaching, enhances teaching quality, and facilitates the development of competencies in an international context – particularly important in logistics and data analytics, where practices and tools vary across countries and can complement each other. In practice, the platform not only provides wide access to educational materials but also strengthens integration within the international academic and professional community. The multilingual nature of the courses increases their appeal for lecturers, students, and industry professionals, allowing participation in the language most comfortable for each user without compromising the quality or completeness of the content.



The Future Life and Development of the BAS4SC Platform

The BAS4SC platform is designed to have a lasting educational and practical impact that extends beyond the initial project. Thanks to its modular and flexible course structure, as well as the ability to download full courses or selected content, the platform can be continuously maintained and developed by universities, faculties, and other educational institutions after the project's completion. Institutions can update courses with new teaching materials, case studies, workbooks, and modules reflecting the latest trends in logistics, data analytics, and business intelligence. Courses can also be expanded with additional interactive content and sections on emerging tools and technologies, including artificial intelligence-based solutions.

The platform's future development includes fostering a user community of lecturers and industry professionals who can participate in forums, exchange experiences, and collaborate on creating new educational materials. Over time, the platform could evolve into a central hub for sharing knowledge and best practices in data analytics for logistics and supply chain management on an international scale.

By downloading entire courses or selected sections and importing them into their own e-learning environments, both institutions and individual users can continuously enhance curricula, enrich teaching content, and implement innovative teaching methods. This potential makes the BAS4SC platform a long-term, dynamic educational tool that supports the development of expert competencies, facilitates international collaboration, and promotes a modern approach to teaching data analytics and logistics across academic and professional contexts.



Appendix 1

 **BAS4SC – Business Analytics Skills for the Future-proof Supply Chains**



**BUSINESS ANALYTICS
SKILLS FOR THE
FUTURE-PROOF
SUPPLY CHAINS**

**NAVIGATING
BAS4SC
PLATFORM**

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1. Project website

The project website <https://bas4sc.put.poznan.pl/> contains links to the electronic teaching platform containing materials created as part of the BAS4SC Project.



Fig. 1. Menu on the page with links to project results.

The first link takes you to the project results page. It includes project-related publications, links to individual courses, and other information.

Link: <https://enauka.put.poznan.pl/course/view.php?id=259>



Fig. 2. View of project results on the electronic teaching platform.





BAS4SC – Business Analytics Skills for the Future-proof Supply Chains

The second link takes you to the category of courses related to the C1 outcome – Advanced Using a Spreadsheet to Analyze Logistics Data. These courses and materials are available in five languages: English, Croatian, Polish, Slovenian, and Serbian.

Link: <https://enauka.put.poznan.pl/course/index.php?categoryid=56>



Fig. 3. View of C1 courses on the electronic teaching platform.

The third link takes you to the course category for the C2 – Business Intelligence outcome. These courses and materials are available in five languages: English, Croatian, Polish, Slovenian, and Serbian.

Link: <https://enauka.put.poznan.pl/course/index.php?categoryid=57>





Fig. 4. View of C2 courses on the electronic teaching platform.

The fourth link takes you to the course categories related to the C3 outcome – Statistical method to analyze a logistics data. These courses and materials are available in five languages: English, Croatian, Polish, Slovenian, and Serbian.

Link: <https://enauka.put.poznan.pl/course/index.php?categoryid=58>



Fig. 5. View of C3 courses on the electronic teaching platform.





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2. Support for the BAS4SC platform

After accessing the online learning platform for courses with materials for the C1, C2, or C3 packages, select any course and enter it. Each course contains the same materials, but available in different language versions. Navigating through the courses is the same across all courses.

At the top of the course, you'll find the Intro, Handbook, forum, and links to tests to complete before starting the course. Further down in this section you will find a file that, once downloaded, allows you to play the course in your own Moodle environment.

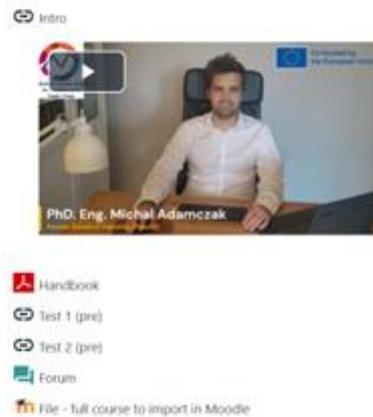


Fig. 6. The initial section in the course.



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BAS4SC – Business Analytics Skills for the Future-proof Supply Chains

The next 10 sections are topics, each containing a chapter from the book and a presentation for use during the lecture. Some courses also include folders with exercise files and case studies. Click on the resource to download it.

7. DISTRIBUTION NETWORK OPTIMISATION USING GRAVITY POINT

-  Chapter 7
-  Presentation 7
-  Ex2: Distribution Network Optimization
-  Case Study 1

Fig. 7. Example of a thematic section.

Below are links to tests you can take after completing the courses. These tests allow you to test your knowledge after reviewing the materials.

Post-test

-  Test 1 (post)
-  Test 2 (post)

Fig. 8. Place tests after the course completion.

The next section includes a section with a presentation on the use of AI tools in a given topic: spreadsheet, business intelligence or statistics.

ARTIFICIAL INTELIGENCE

-  Using AI in spreadsheet

Fig. 9. AI Section.





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The last part of the course contains links to additional videos and additional materials (courses) that are available open access.

ADDITIONAL VIDEOS

INTRODUCTION

- Video 1 - introduction (16m)
- Video 2 - introduction (2h)

FORMULAS AND FUNCTIONS

- Video 1 - formulas and functions (13m)
- Video 2 - formulas and functions (11m)
- Video 3 - formulas and functions (53m)

ADDITIONAL COURSES open access

- Introduction to MS Excel (7h)
- 50 Excel Formulas to Get Smarter than Your Colleagues (1,5h)
- Excel for Beginners (7h)
- Excel Certification Course Online (15h)
- Online Excel Training (12h)
- List of Excel Courses

Fig. 10. Additional materials section.





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3. Download a copy of the course

The initial section of each course contains a file that, once downloaded, allows you to play the course in your own Moodle environment. The course is in *.mbz format – a file generated as a backup copy of courses created as part of the BAS4SC project.

Intro



Handbook

Test 1 (pre)

Test 2 (pre)

Forum

File - full course to import in Moodle

Fig. 11. Icon and location to download a copy of the course for import into Moodle.

Save the downloaded file to your computer and then import it into the course where you want to embed the materials.



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