# Research and Creative Activities of ŠKODA AUTO UNIVERSITY





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# Rector's Foreword

### Dear Readers,

The aim of this publication is to describe the focus and results of research at ŠKODA AUTO UNIVERSITY (ŠAVŠ).

ŠAVŠ is a non-governmental research organisation. However, by its nature, ŠAVŠ is a "teaching university", not a "research university" – its primary objective is the development of study programmes that prepare graduates for business administration and management work in global industrial companies, particularly (but not only) in the automotive industry. With this mission, the founder of ŠAVŠ, ŠKODA AUTO company established our university almost twenty years ago, and we have delivered on this mission and will continue to do so in the future. This mission, which determines the science and research strategy of ŠAVŠ as well as its implementation, is reflected in at least three respects.

Firstly, research and professional activities of our university are based on the stated mission of teaching and research. The research conducted by our university therefore serves to develop our study programmes and is not an end in itself. ŠAVŠ does not aspire to become a research institution competing, in terms of research scope, with public research institutions or leading research-focused universities. Our ambition is to achieve the highest professional quality of our graduates in terms of their employment opportunities and in business administration. This objective defines the ratio of professional capacity dedicated to teaching and research – however, it is true that (and this in no way contradicts the previous statement. In fact, it confirms it!) we follow the "research-led education" model.

Secondly, our university offers professionally-focused Bachelor study programmes in combination with academically focused follow-on study programmes, and the number of Bachelor degree students predominates. It is therefore logical that, in our research strategy and its implementation, we focus primarily on applied research, especially grants from the Technology Agency of the Czech Republic (TACR) and other providers of targeted research, as well as contracted research for businesses.

And thirdly, as a leading educational institution within the Czech automotive sector and a university with study programmes focussing on economics, our research activities primarily focus on the different aspects of the economy and economic development related to this key segment of the Czech and global economy.

The degree of success in the scientific, research and professional activities is, of course, to be assessed by the professional public and the providers of research projects. The aim of the authors of this publication is to briefly, but as comprehensively as possible, provide information about the scope and content of these activities.

Jachht

**doc. Ing. Pavel Mertlik, CSc.** Rector

History of research development at ŠAVŠ and its research strategy AVŠ was founded in 2000 by ŠKODA AUTO company. Research and creative activities, as is common in higher education institutions, is linked to the core topics of study programmes, fields and specialisations. Its beginning at ŠAVŠ dates back to 2005-2006, when ŠAVŠ hired publishing academic as full-time employees in connection with the first accreditation of a follow-on Master programme, at that time the university was still a part of the ŠKODA AUTO company and was not a separate legal entity. The first two research projects at ŠAVŠ included a project of the Czech Science Foundation (GACR) obtained in 2006 by prof. Šaroch and a joint project of ŠKODA AUTO and Johannes Kepler University Linz conducted by doc. Pavlica from ŠKODA AUTO UNIVERSITY.

"The separation of ŠAVŠ from the structure of the automotive company in 2013 marked a new stage of research as the university became an independent legal entity."

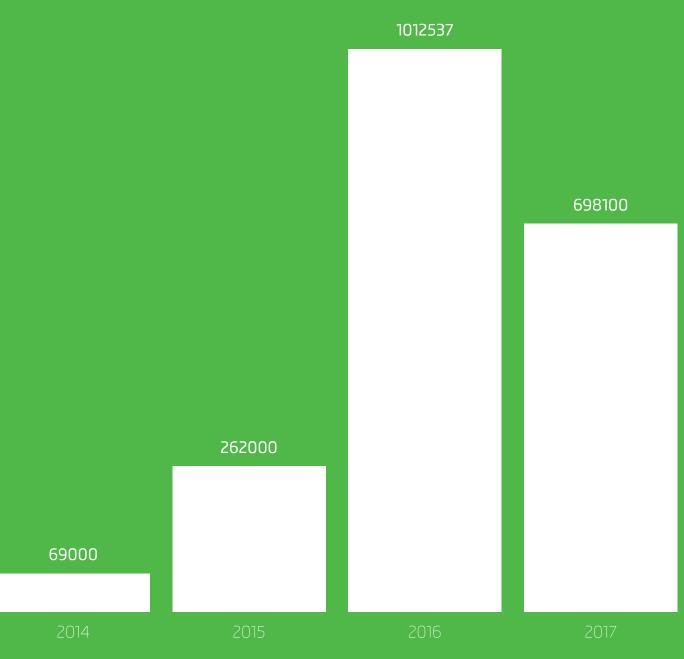
The GACR project dealt with selective impacts of the introduction of the euro as a common currency and involved colleagues from the Faculty of Social Sciences at Charles University in Prague and the chief economists of Citibank for Central Europe. The other project with Johannes Kepler University focused on new options and explored selected methodologies in the field of managerial diagnostics using the Vroom-Yetton model. The recruitment of experts such as these was crucial in the university receiving accreditation of a follow-on Master programme.

The academic staff grew very slowly until 2013, when the university became a separate legal entity and was no longer limited by the rules of the internal HR policies of the VW group. These policies suited an automotive company, not an educational institution. Despite the hurdle, the university managed during this period, with the help of the internal grant agency (operating between 2007 and 2009), to assemble a small group of tenured published academics as well as a number of external collaborators and to achieve recognition among other professionals through projects and publications that were also validated in the government registry of research information from 2012. Finally, the university was first recognised as a research organisation under Act 130/2002 Coll. and also by extension the European public funding framework. During the same period, despite the abovementioned shortage of personnel, the university was awarded with a number of other internal and external projects focusing more on practical applications and innovation in teaching. These projects included ones of an international nature, as you can read in detail in the following text.

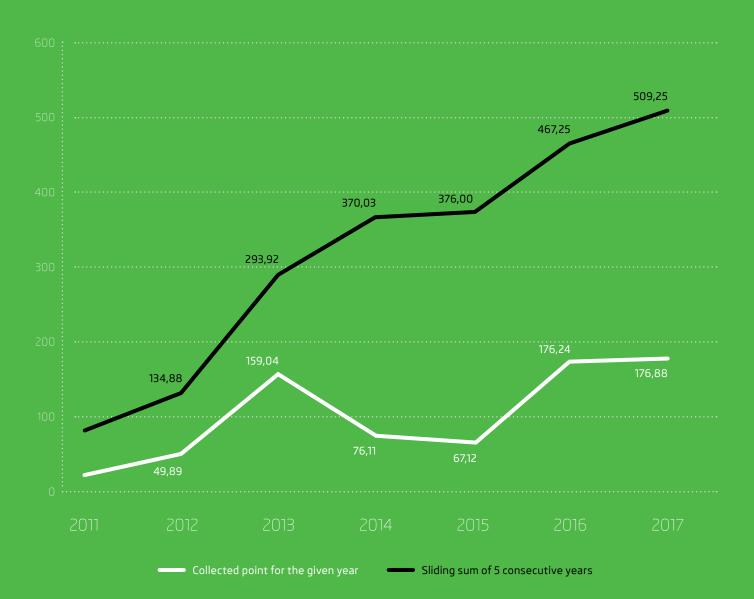
The separation of ŠAVŠ from the structure of the automotive company in 2013 marked a new stage of research as the university became an independent legal entity. From this year, the ratio of full-time and part-time academics began to change in favour of the former. This process was reflected in the slight delay in receiving another project from the Czech Science Foundation (2014), rapid growth of contract research - especially for ŠKODA AUTO and Siemens between 2014 and 2017 and obtaining important contracts in applied research e.g. TACR, Operational Programme Enterprise and Innovation for Competitiveness (OPEIC) in 2018. These results were logically accompanied by growth in the volume of points for publishing outcomes registered in the Registry of Research Information (RIV), which is a part of the Information System of Research, Development and Innovation of the Czech Republic (IS VaVaI).

This has been a summary of the history of development of ŠKODA AUTO UNIVERSITY, as well as its recently adopted research strategy to guide the activities. At the same time, however, it also presents in broader terms the current potential of the individual departments. This potential can be more easily grasped through specific individuals – heads and members of departments and their professional and publishing history, including currently research projects.

### Development of the volume of contract research between 2014 and 2017 in CZK:



### Cumulative development of RIV points obtained from 2011-2017



from the left Pavel Štrach, Emil Velinov, Jana Pechová, Jana Přikrylová, Martina Beránek, Eva Jaderná

X M M M

# Department of Marketing and Management KMM

he department offers the Bachelor field of study Business Administration and Sales and the follow-on Master field of study Marketing Management in the Global Environment. Based on the newly acquired accreditation in 2018, the department will offer the Marketing and Sales Management specialisation as part of the Bachelor study programme Business Administration, and the International Marketing specialisation under the follow-on Master study programme of the same name. In the Bachelor study programme, the department is also the coordinator of the Double Degree programme with University of Applied Sciences Upper Austria in Steyr, Austria, and with Seinäjoki University of Applied Sciences, Finland. In the follow-on Master study programme, the department is the coordinator of the Double Degree programme with University of Applied Sciences Upper Austria in Steyr, Austria. Students can also improve their knowledge and skills through certificate courses: Purchasing Manager (Bachelor studies) or Purchasing Expert (Master studies), which are offered in collaboration with ŠKODA AUTO.

### doc. Ing. Pavel Štrach, Ph.D. et Ph.D.

Pavel Štrach is a graduate of the University of Economics, Prague, the Faculty of Management (Bc., Ing.) and the Faculty of Business Administration (Ph.D.), he also completed doctoral studies at the University of Otago, School of Business in Dunedin, New Zealand. His habilitation was in "management" at Prešov University. From 2006 to 2018, he was active as a permanent guest professor at the IONA College, Hagan School of Business in New York. Between 2014 and 2016, he worked as professor for international services and innovation at University of Applied Sciences, School of Management in Steyr, Austria. At ŠAVŠ, he has worked intermittently since 2006 at different positions – formerly as the Vice-Rector for International Affairs, currently as the Director of the MBA programme and Head of the Department of Marketing and Management.

Professional works of Pavel Štrach dealing with the strategies in international business have been published in more than 25 countries on four continents, e.g. in Journal of Knowledge Management, Journal of Product and Brand Management, Services Marketing Quarterly or Behaviour & Information Technology.

Specialization: International Management





### doc. Ing. Jana Přikrylová, Ph.D.

Jana Přikrylová completed her academic education at the University of Economics, Prague and in Bratislava. In addition to academia, she has also worked in international trade organisations and as a consultant in different international projects. She taught in MBA programmes in the USA and Canada and also cooperated on the preparation and teaching of international marketing in the Master in International Management programme, which is offered by the CEMS group, Global Alliance in Management Education.

She co-authored the book Modern Marketing Communication. The publication is a comprehensive review of marketing communication, introduces the communication mix model and its parts, clearly explains related topics and highlights the trends in communication at the beginning of the 21st century. Its target audience includes communication agencies, corporate marketing and PR as well as university students.

### Specialisation

international business, marketing and trade.

The Department of Marketing and Management (KMM) focuses primarily on four research topics:

### Topic 1:

### **Green Marketing**

Academic personnel:

- 🗁 doc. Ing. Jana Přikrylová, Ph.D.
- 🗁 Ing. Eva Jaderná, Ph.D.

### Key projects:

- Green Products of Automotive Companies and their Perception by Different Generations of Czech Consumers
- 2. Perception of Green Marketing in the Young Generation Applied to the Automotive Market

Ad 1. Green Products of Automotive Companies and their
Perception by Different Generations of Czech Consumers
Funding: Support of specific research at higher education
institutions, Ministry of Education (Student Grant Competition).
Duration: 2018–2019.

### Budget: CZK 512,014.

### Research team:

- 🗁 Ing. Eva Jaderná, Ph.D. (Principal Researcher)
- 🖶 doc. Ing. Jana Přikrylová, Ph.D.
- 🗁 Mgr. Radka Picková, Ph.D.
- 🗁 Ing. Hana Volfová, Ph.D.
- 🗁 Nicol Malá (Master's student)
- 🗇 Martin Mlázovský (Master's student)
- 🗁 Karel Samek (Master's student)

**Abstract:** The project focuses on research of attitudes in different generations of Czech consumers towards green products and green activities of companies in the automotive industry. It monitors the offer of green products of companies in the automotive industry and evaluates their justification and marketing communication.

**Ad 2.** Perception of Green Marketing in the Young Generation Applied to the Automotive Market

Funding: Internal Grant Agency (IGA) ŠAVŠ Duration: 2016–2017 Budget: CZK 196,800 Researcher:

🖶 doc. Ing. Jana Přikrylová, Ph.D.

Abstract: The aim of the project was to find out how new generations of customers (generation Y, born between 1979– 1996) perceive green marketing in the automotive industry. This group represents an increasing share of customers and includes potential customers who will be a part of the market demand in the coming years. At the same time, a shift can be observed in this group in the perception of products and companies and in the relation to social and environmental issues.

The first part of the project dealt with analysis of secondary data. The aim was to identify the individual subgroups of generation Y, their motivation and value orientation with respect to green marketing in the automotive industry. The analysis was followed by the team's own research (including recommendations for the automotive industry).

### Topic 2:

### Sales Management

Academic personnel:

- 🖶 doc. Ing. Pavel Štrach, Ph.D., Ph.D.
- 🗁 doc. Ing. Jana Přikrylová, Ph.D.
- 🗁 Ing. Eva Jaderná, Ph.D.

### **Key projects:**

- DNDS Developing New Distribution Skills for SMES and HEI Students
- 2. The Company and its Partners Use of the Potential of the Fleet Market
- **3.** Ambassador Using the Marketing Potential of Employees to Increase Sales
- Ad 1. DNDS:

### Funding: EU Lifelong Learning Programme Duration: 2011–2014

### **Countries / Project Partners:**

AT / FH OÖ Studienbetriebs GmbH CZ / ŠKODA AUTO UNIVERSITY IT / Università Politecnica delle Marche PL / Uniwersytet Gdański AT / KTM Sportmotorcycles AG Int. / Snap-On Business Solutions GmbH **Budget:** EUR 251,984 **Abstract:** This project funded by the EC aimed to prepare

European car dealers for the future.

Globally well-known businesses such as KTM Sportmotorcycles AG, ŠKODA AUTO and Snap-On Business Solutions collaborated with a consortium of European universities to develop new training concepts and materials for car dealers and university students. The project explored challenges in the distribution of vehicles and motorcycles and defined new skills for car dealers and higher education students necessary to be well prepared for the future. Based on these findings, the team developed and tested training and education concepts to develop these skills.

The objective of the project was to identify shortcomings of car dealers and improve them and to better prepare students for their future jobs in sales and distribution, especially within the automotive sector.

Through extensive international surveys in dealerships, the project identified major issues, weaknesses and deficiencies in the skills of salespeople in car and motorcycle dealerships in

# DNDS

Project "DNDS - Developing New Distribution Skills for SMES and HEI Students" explored challenges in the distribution of vehicles and motorcycles and defined new necessary skills for car dealers and higher education students to be well prepared for the future. participating countries (Poland, Germany, Czech Republic, Austria and Italy). This assessment was then compared to the views of experts in the automotive industry, academia, media and national associations. The training and education concepts developed on this framework also include an online self-assessment tool for competencies in distribution for the target group.

Finally, complete training models were created that are tailored to the needs of dealerships and students of business and sales, which were presented at an international conference at the end of the project. Project outputs are available at: http://www.new-distribution-skills.eu.

**Ad 2.** The Company and its Partners – Use of the Potential of the Fleet Market

**Funding:** ŠKODA AUTO. The project was researched in 2016. **Researcher:** 

🗁 doc. Ing. Jana Přikrylová, Ph.D.

**Abstract:** The aim of the contract research project was to conduct a situational analysis and design communication processes so as to increase the number of fleet customers among the supplier companies of ŠKODA AUTO.

A questionnaire was prepared for the situational analysis, which was handed over to the relevant department within ŠKODA AUTO. The team then prepared a proposal on how to work with personal and non-personal communication with business partners.

**Ad 3.** Ambassador - Using the Marketing Potential of Employees to Increase Sales

**Funding:** ŠKODA AUTO. The project was researched in 2016. **Researcher:** 

🖶 doc. Ing. Jana Přikrylová, Ph.D.

**Abstract**: The aim of the contract research project was to find out whether it would be possible to use a company's own employees to acquire new customers. Using a study of human motivation in the company, options for engaging employees in spreading the reputation of the company were defined while helping to increase sales. A project was developed on how to select employees for an incentive programme and a draft of the selection mechanism for dealership involvement was written.

### Topic 3:

### Innovation Management

Academic personnel:

- 🗁 Ing. Martina Beránek, Ph.D.
- 🗁 Ing. Jana Pechová, Ph.D.
- 🗁 Ing. Emil Velinov, Ph.D.

### Key project:

Analysis of Job Position Handover to Successors **Funding:** ŠKODA AUTO **Duration:** 1/9/2018 – 28/2/2019

### Research team:

- 🗁 Ing. Jana Pechová, Ph.D.
- 🗁 Mgr. Petr Kasal,
- 🗁 Mgr. Lenka Stejskalová, MBA

**Abstract:** The contract research project aims to analyse the current situation and describe the process of handing over job positions. The aim of the second stage was to create a general procedure (applicable in any area within ŠKODA AUTO) when handing over outputs.

### Topic 4:

## Perception of Attractiveness of the City and the Region

Academic personnel:

- 🗁 doc. Ing. Pavel Štrach, Ph.D., Ph.D.
- 🗁 Mgr. Petr Šulc (KIKM)
- 🗁 Ing. Eva Jaderná, Ph.D.

### Key project:

- 🕾 Ing. Eva Jaderná, Ph.D.
- 🕾 Mgr. Petr Šulc.

Abstract: the research team of the contract research project will conduct a continuous analysis of public opinion in the Rychnovsko Region (Rychnov nad Kněžnou, Solnice, Kvasiny) and Mladoboleslavsko Region (Mladá Boleslav and its surroundings). The analysis will be conducted in the form of periodic public opinion polls and their evaluation.

The following topics will be analysed: safety, transport and traffic safety, health care, housing and construction, social issues, sport and culture, leisure time and public space, opinion on ŠKODA AUTO, perception of the effect of measures implemented by the Hradec Králové region and the Czech government.

The index of population satisfaction will be continuously monitored. The survey will be carried out on a representative sample of at least 600 respondents in the Rychnovsko region, the same respondents sample will be used in Mladá Boleslav and the surroundings, at least once a year on the given topic. The research team will also cooperate on preparing the questionnaires. Data will be reported to the provider from each survey.

The obtained data will be used to identify the main problems perceived by the inhabitants of the regions. The project team will also be responsible for data archiving.

### Other activities:

Since 2008, the Department of Marketing and Management has collaborated with the Department of Informatics and Quantitative Methods on systematic and regular research of the perceived attractiveness of locations with active operations of ŠKODA AUTO.



from the left Josef Horák, Jiřina Bokšová, Jiří Strouhal

Department of Finance and Accounting KFU

t is the department responsible for the Bachelor field of study Business Administration and Financial Management and the follow-on Master field of study Corporate Finance Management in the Global Environment. With the accreditation acquired in 2018, it will also open Marketing and Sales Management specialisation under the Bachelor's study programme Business Administration and Corporate Finance in International Business specialization under the follow-on Master's programme of the same name. This department offers the courses Accounting, Finance, Basics of tax and financial law and many others.

### doc. Ing. Jiřina Bokšová, Ph.D.

Jiřina Bokšová has been the Head of the Department since 2012. Graduated from the University of Economics, Prague in 1985 and joined the Accounting Department the same year as an assistant. When she started at University of Economics, Prague, she specialised in insurance accounting and financial reporting. In 2004, she defended her dissertation topic: Specific Issues of Insurance Accounting in the Context of Harmonization Processes Related to the Accession to EU. She later worked with the Chamber of Auditors of the Czech Republic lecturing and examining future auditors. In 2010, she did her habilitation at University of Economics, Prague in the field of accounting and financial management and was appointed associate professor.

Since 2012, she has worked full-time as the Head of the Department of Finance and Accounting at ŠAVŠ. She is a lecturer in, and supervisor of, three courses: Fundamentals of Accounting and Financial Reporting, Financial Accounting of Entrepreneurs in the CR and Information Capability of Financial Statements.

She regularly attends international conferences and is an active published author.

She authored and co-authored several books, e.g. Accounting of Commercial Insurance Companies - Particularities in the Czech Republic (2010); Financial Statements in Detail (2013); Glossary of Accounting Terms (2015); and a number of expert articles both in local and foreign periodicals.

Her other activities include expert opinions in accounting, such as expert studies and opinions requested by public authorities. In 2014, she was selected by the Chamber of Auditors as an expert in the matter of assessing the quality of audit reports in disciplinary proceedings with auditors. In 2013-2014, 2014-2015 and 2015-2016 she won the student award "Academic of the Year".

### Specialization:

Financial reporting and accounting of commercial insurance companies.





Management, obtaining a Ph.D. two years later. Between 2006 and 2011 he worked in the Department of Financial Accounting and Auditing at University of Economics, Prague, between 2012 and 2017 he worked in the Department of Business Economics (Department of Strategy since 2015) at University of Economics, Administration in 2012, successfully obtaining professor certification in Business Economics and Management and was

He has worked with ŠAVŠ since 2012, full-time since 2017. He also provides advisory services to audit companies and government bodies (General Financial Directorate, Czech Statistical Office). He is the author of more than 30 expert books research articles in the same fields.

From 2011 he is the president of the Chamber of Certified Accountants of the Czech Republic, and from 2016 he is the chairman of the Review Committee of the Union of Accountants

accounting certification and was also an examiner for the

At present, he is a reviewer of the financial accounting exam at the Chamber of Auditors of the Czech Republic.

Financial reporting, international accounting, financial

### doc. Ing. Romana Čižinská, Ph.D.

Romana Čižinská earned degrees in Tax Consultancy (Bc.), Business Finance and Trade (Ing.) and Business Management and Economics (Ph.D.) at the Faculty of Business of the Brno University of Technology. In 2009, she became an associate professor in Business Economics at the Faculty of Business Administration of the University of Economics, Prague.

She has worked for ŠAVŠ since 2006, currently as an associate professor in the Department of Finance and Accounting. She teaches and coordinates courses in corporate finance at both the Bachelor's and Master's level. She is a regular financial lecturer for the US-MBA programme which is organized by the University of St. Francis, Chicago and Brno University of Technology. She also provides analytical, consulting and advisory services in the field of performance evaluation and corporate valuation. She has authored or co-authored five expert monographs and dozens of conference and journal articles.

### Specializations

Corporate finance management, financial analysis, corporate valuation, controlling, managerial accounting.





### doc. Ing. Tomáš Krabec, Ph.D., MBA

The main professional focus of doc. Krabec is the international standardisation of asset valuation with a special focus on the methodology of valuation of businesses and securities, assets valuation in financial reporting and intangible assets valuation. On the topic of assets valuation, its methodology and standardisation, he has published five books and dozens of expert articles in the Czech Republic and abroad. He studied economics, finance and valuation in Prague and in Aachen and also graduated with an MBA from the programme International Business in Trieste, Italy and in the USA. He received his doctorate in Accounting and Corporate Finance Management at the Faculty of Finance and Accounting of the University of Economics, Prague. He regularly gives lectures on the topic of assets valuation at international research conferences in the Czech Republic and abroad (including USA, Canada, Germany and Greece). He has also been a visiting professor in the field of finance and assets valuation at foreign universities (Germany, Finland, France, Spain). Doc. Krabec completed his habilitation in the field of Business Economics and Management in 2011 (the habilitation thesis topic, Business Valuation and Standards of Value, was published as a book by Grada Publishing, a.s. in 2009).

# In terms of research, the Department of Finance and Accounting focuses on these main topics:

### Topic 1:

### Digitisation in the 21st Century

- New e-Government challenges in a Europe-wide Context to Increase the Competitiveness of the Czech Republic Research team:
- 🗇 prof. Ing. Jiří Strouhal, Ph.D.
- 🖶 doc. Ing. Jiřina Bokšová, Ph.D.
- 🗁 Michal Bokša, MPhil.
- 🗁 prof. Ing. Stanislav Šaroch, Ph.D.
- 🗁 doc. PhDr. Karel Pavlica, Ph.D.
- 🗁 Ing. Josef Horák, Ph.D.

### Funding: TACR, ÉTA programme (TL01000147) Duration: 2018–2021 Budget: CZK 5,305,621

Abstract: The project significantly contributes to the development of e-Government in the Czech Republic and will allow 1) an increase in the competitiveness of Czech businesses and 2) substantially easier and faster communication between citizens and the state. The digitisation process (opening up possibilities of Industry 4.0) of Czech businesses cannot be effective without digitisation of state administration, which can substantially increase the quality of life of Czech citizens. The Czech Republic currently does not have any strategic plan for the implementation of e-Government. The project will therefore provide recommendations and instructions for the Czech government on which policies and in which order they should be implemented so as to create efficient e-Government (e-taxes, e-business, e-elections, e-ID citizen data, etc.). The interdisciplinary nature of the project allows the research of citizens and businesses in relation to the project on three levels: economic, security and social-psychological.

The project is divided into three consecutive stages. The first stage uses comparative methodology to focus on "best practices" of countries with advanced e-Government levels,

primarily in the European context, providing an overview of areas and policies that need to be implemented. The second stage deals with the adaptation of previous results to the Czech environment and aims to find a suitable way of their prioritisation/implementation procedure. Surveys will be used to address TOP 100 businesses in the Czech Republic and municipal authorities in order for them to create their own implementation priority list based on their needs/preferences. It is an innovative approach based on synthesis and digitisation process in state administration based on the needs of businesses and citizens. The third stage will communicate the results to the government and provide a more detailed description of selected areas.

The TACR project will provide recommendations for the Czech government on which policies they should be implemented in order to create an e-Government.

**2.** Impact of Industry 4.0 on Financial Management Research team:

- 🕾 Ing. Josef Horák, Ph.D.
- 🖶 doc. Ing. Jiřina Bokšová, Ph.D.

### Funding: ŠKODA AUTO Duration: 2017-2019

Budget: CZK 100,000

**Abstract:** The main objective of the contract research project was to prepare an analysis of the impact of ongoing digitization

on financial management in ŠKODA AUTO. The task of the contract research is to identify key areas in controlling, financial and managerial accounting that will be substantially influenced by the ongoing digitisation process. The project also includes a workshop which will be attended by representatives of major companies dealing with Industry 4.0, state administration officers and other participants active in this field. The actual benefit of the workshop will consist of passing on the information about the ongoing digitisation process in the company, learning the "best practices" of different companies and, last but not least, it should contribute to the identification of the impact of digitisation on specific areas of financial management. Efforts will be made to follow on this pilot project with an extensive scientific-research project funded by TACR.

Selected publications:

- STROUHAL, J., HORÁK, J., BOKŠOVÁ, J. Accounting Harmonization in V4-Countries and its Impact on Financial Data. International Advances in Economic Research. 2017. vol. 23, no. 4, pp. 431-432. ISSN 1083-0898.
- BOKŠOVÁ, J., HORÁK, J. Does the analysis of the suppliers' financial statements allow to manage risks in terms of ensuring of supplies continuity?. In The 11th International Days of Statistics and Economics. 11th ed. Slaný: MELANDRIUM, 2017, pp. 174-182. ISBN 978-80-87990-12-4.
- HORÁK, J. BOKŠOVÁ, J. Will the big data lead to the savings in overhead cost?. In The 11th International Days of Statistics and Economics. 11th ed. Slaný: MELANDRIUM, 2017, pp. 489-496. ISBN 978-80-87990-12-4.
- BOKŠOVÁ, J., HORÁK, J. RANDÁKOVÁ, M., VEJVODA, M. Return on Revenue of Manufacturing Enterprises after Amendment of Czech Accounting Legislation. In The 10th International Days of Statistics and Economics. Slaný: Melandrium, 2016, pp. 205-214. ISBN 978-80-87990-10-0.
- BOKŠOVÁ, J. Gross written premium of insurance companies in cee countries - mismatching problems in financial statements. In Procedia Economics and Finance. 34th ed. Netherlands: Elsevier, 2015, pp. 423-429. ISSN 2212-5671.

### Topic 2:

### Valuation of Intangible Assets

Research team:

- 🖶 doc. Ing. Tomáš Krabec, Ph.D., MBA
- 🗇 doc. Ing. Romana Čižinská, Ph.D.

### Duration: since 2015

Intangible assets and their valuation were outside the main focus of academic economists and practitioners for quite some time. However, this has been rapidly changing over the past approximately twenty years, and there has been a growing need for an efficient tool for valuation and management of this specific type of corporate asset in relation to value creation for the owner. The main deficiency of most of the commonly used methods for determining the value of intangible assets is the fact that they assume applicability only to a publicly traded company where, from the date of valuation, the market capital structure is known together with the market capitalisation of equity and interest-bearing debts as well as the opportunity costs of invested capital. However, this assumption is difficult to fulfil in the real world (especially in the context of the Czech Republic). To apply it to the context of the Czech Republic, we therefore built our own model for the valuation of intangible assets - VIM (verifiable interdependent model). Its precision and practical applicability are the subject of our continuous research.

### Selected publications:

- ČIŽINSKÁ, R., KRABEC, T. Behavioural-Qualitative Value Drivers in Variable Interdependent Model for Valuing Brands. International Advances in Economic Research. 2016. vol. 22, no. 1, pp. 105-106. ISSN 1083-0898.
- KRABEC, T., ČIŽINSKÁ, R. Invested Capital, Its Importance, and Interpretability Within Income-Based Methods for Determining the Value of the Company. In New Trends in Finance and Accounting. Berlin: Springer International Publishing, 2016, pp. 783-789. ISBN 978-3-319-49558-3.
- KRABEC, T., ČIŽINSKÁ, R. Behavioural-qualitative value drivers in variable interdependent model for valuing brands. In 79th

International Atlantic Economic Conference. Atlanta: IAES, 2014. Atlanta - Milan: International Atlantic Economic Society, 2015.

- ČIŽINSKÁ, R., KRABEC, T. Brand Value Drivers in the VIM Model: the Behaviorally-Qualitative Perspective. In 2015 Winter Global Business Conference: Conference Proceedings. 1st ed. Tignes: Innovation Institute, 2015, pp. 77-87. ISSN 1848-2252.
- KRABEC, T., ČIŽINSKÁ, R. Destroying and Creating Equity Value Through Brand Management: Positive and Negative Brand Impact Assessment by Using the VIM Modelling Approach. Journal of Contemporary Management Issues. 2014. vol. 19, no. 1, pp. 213-230. ISSN 1846-3363.
- KRABEC, T., ČIŽINSKÁ, R. Introducing the Financial Brand Impact Adjustor in the VIM Model for Appraising the Brand of an Unlisted Company. In Recent Advances in Energy, Environment, Economics and Technological Innovation. 1st ed. Paris: WSEAS Press, 2013, pp. 157-163. ISBN 978-960-474-343-8
- ČIŽINSKÁ, R., KRABEC, T. VIM Model for Appraising the Trademark of an Unlisted Company According to IFRS 13.
   Journal of Accounting and Auditing: Research & Practice.
   2013. vol. 2013, pp. 1-17. ISSN 2165-9532.

# Field Theory in Finance

Given the current economy's reliance on information flows, the standard econometric tools are no longer able to explain the behaviour of investors. The aim of the study is to analyse the validity of assumptions of mainstream financial theory using applied quantitative analysis and new finance-computing procedures.

### Topic 3:

### Field Theory in Finance

Research team:

- 🗇 doc. Ing. Tomáš Krabec, Ph.D., MBA
- 🖶 doc. Ing. Romana Čižinská, Ph.D.

### Duration: since 2015

Given the current economy's reliance on information flows, the standard econometric tools are no longer able to explain the behaviour of investors. The aim of the study is to analyse the validity of assumptions of mainstream financial theory using applied quantitative analysis and new finance-computing procedures.

Selected publications:

- ČĺŽINSKÁ, R., KRABEC, T., VENEGAS, P. (2018). Factoring attention price into investment decisions. 85th International Atlantic Economic Conference, London. International Atlantic Economic Society.
- KRABEC, T., VENEGAS, P. Trust Design: Balancing Smart Contracts Utility and Decentralisation Risk. Int Adv Econ Res (2017).
- KRABEC, T., VENEGAS, P. (2017). Trust design: Balancing smart contracts utility and decentralisation risk. 83rd International Atlantic Economic Conference, Berlin. International Atlantic Economic Society.
- KRABEC, T., VENEGAS, P. (2016). Trust-less cryptomarkets: Perspectives of Value, Risk and Cost. Financial Risk & Network Theory, University of Cambridge Judge Business School.
- ČIŽINSKÁ, R., KRABEC, T., VENEGAS, P. Fields Rank: the Network Value of the Firm. 2016. International Advances in Economic Research 22 (4), 461-464. International Atlantic Economic Society.
- KRABEC, T., ČIŽINSKÁ, R., VENEGAS, P. (2016). Fields Rank: The Network Value of the Firm. 81st International Atlantic Economic Conference.
- KRABEC, T., VENEGAS, P. Fields: On the Visualization of Flows in Digital Businesses (2015). Financial Assets and Investing Journal 6 (3), 5-22.







from the left David Staš, Josef Bradáč, Pavel Wicher, Radim Lenort, Jan Fábry, Jiří Sobotka

# Department of Logistics, Quality and Automotive Technology KLAT

### prof. Ing. Radim Lenort, Ph.D.

Radim Lenort graduated from the Faculty of Metallurgy and Materials Engineering at VŠB – Technical University of Ostrava, field of study Economics and Management in Metallurgy (Ing.). He completed his doctoral studies at the same faculty in the by habilitation in the field of Management of Industrial Systems (Assoc. Prof.) and the appointment procedure to become professor in the same field (Prof.). He received the degree ING-PEAD IGIP International Engineering Educator awarded (ALog.). He has completed internships at universities in Austria, Society, Logistics Academy, Czech Logistics Association and GNSS Centre of Excellence, lecturer of courses for industrial companies, researcher or joint-researcher of more than 50 projects of or EU funds). He is an evaluator of the National Accreditation Bureau, member of the Scientific Board at two universities, member of editorial boards of 8 foreign journals, coordinator of international conferences (e.g. Carpathian Logistics Congress indexed in Web of Science). He is the author and co-author of more than 200 publications with more than 400 citations in the Web of Science database (H-index 13). He has worked for ŠKODA AUTO UNIVERSITY since 2012.

### Specializations:

Logistics of industrial companies, industrial supply chain management, optimization of industrial processes.





### doc. Ing. Jan Fábry, Ph.D.

Jan Fábry is a long-time university lecturer. In 1993, he graduated in Operational Research at the Faculty of Informatics and Statistics at the University of Economics, Prague and acquired a Ph.D. degree in Econometrics and Operational Research at the same faculty in 2006 (dissertation topic: Dynamic Vehicle Routing Problems). In 2015, he completed his habilitation in the same field at the faculty (habilitation thesis topic: Vehicle Routing Problems). Since 2016, he has been an associate professor at ŠAVŠ in the Department of Logistics, Quality and Automotive Technology. He published a number of articles, especially in the field of mathematical models in transport and production logistics. He is the author and co-author of several university textbooks.

He is a long-time member and secretary of the Czech Society for Operations Research.

He was a member of the research teams in grant projects focused on the optimization of logistics processes, participated in the contractual projects with ŠKODA AUTO and other entities in the field of production and transport.

He is a member of the ŠAVŠ Academic Council, as well as a member of the Board of Doctoral Degree Programme in Econometrics and Operational Research at the University of Economics, Prague.

### Specializations:

Combinatorial optimization, application of optimization models and methods in logistics, computer simulation of logistic processes, vehicle routing problems, heuristic algorithms.

### doc. Ing. Eva Jarošová, CSc.

Eva Jarošová is a leading expert on applied statistics and a longtime tertiary-level lecturer. She graduated from the Faculty of Electrical Engineering of the Czech Technical University in Prague, field of study Technical Cybernetics (Ing.). She later achieved a doctoral degree in technical cybernetics (CSc.). She was appointed as associate professor at the University of Economics, Prague in the field of Statistics in 2004.

Until 1990, she worked as a researcher at the State research institute of mechanical engineering in Běchovice. Since then, she has worked in education (University of Economics, Prague until 2012). She has worked for ŠAVŠ since 2008. For many years, she worked in the Czech society for quality as a member of an expert group for statistical methods. She currently also works in the technical standards committee TNK4 of the Czech Office for Standards, Metrology and Testing.

She has published a number of expert articles, particularly in the field of statistical methods of quality management and linear models, and has co-authored several books. In terms of teaching, she specializes in statistics and statistical methods of quality management.

### Specializations:

Statistical modelling, statistical regulation of processes, statistical sampling; reliability, experiment design.



In research, the Department of Logistic, Quality and Automotive Technology focuses on these main topics:

### Topic 1:

### Innovation and the Latest Concepts in Logistics and Supply Chain Management

Academic personnel:

- 🗁 prof. Ing. Radim Lenort, Ph.D.
- 🗁 Ing. David Holman, Ph.D.
- 🗁 Ing. David Staš, Ph.D.
- 🗁 Ing. Pavel Wicher, Ph.D.

### Key projects:

- Green Solutions for Business and Industry, Erasmus+, Key action: Cooperation for innovation and the exchange of good practices, Action: Strategic partnerships.
- 2. Development of new SW by DYNAMIC FUTURE s.r.o.; Predictive Planning Application 4.0.
- **3.** Concept of Creating and Implementing a System of Milk Run Supplies in Siemens Mohelnice Inbound Transport, Siemens s.r.o, o.z. Elektromotory Mohelnice.
- 4. Concept of Optimal Use of FTS in the M1 Building, ŠKODA AUTO
- Ad 1. GSBI Green Solutions for Business and Industry

Funding: EU, Erasmus+

Duration: 2014 - 2017

Budget: EUR 255,581

### Countries / Project Partners:

- CZ / ŠKODA AUTO UNIVERSITY
- PL / Wyższa Szkoła Bankowa we Wrocławiu
- FI / Seinajöki University of Applied Sciences
- SK / University of Žilina
- DE / Hochschule für Technik und Wirtschaft Dresden
- DE / OTH Regensburg

**Abstract**: The Green Solutions for Business and Industry project focused on sharing best practices in the green business education process with close links to industrial companies. The project helped its participants to understand and deal with the values of

society using a balanced approach to economic and environmental efficiency. The organisation has faced changing conditions for several years. In addition to increasing diversity and dynamics, environmental issues have grown in importance. The social, political and economic demands for sustainable solutions forces organisations to consider the impact of their activities on the environment and develop sustainable strategies for their product and service offerings, supply chains, production and transport.

Ad 2. Development of New SW by DYNAMIC FUTURE s.r.o. Predictive Planning Application 4.0. Funding: OPEIC Programme: Applications Duration: 1/11/2018 – 31/10/2020 Budget: CZK 3,575,577 Research team:

- 🕾 prof. Ing. Radim Lenort, Ph.D.
- 🕾 Ing. David Holman, Ph.D.
- 🗁 Ing. David Staš, Ph.D.
- 🗁 Ing. Pavel Wicher, Ph.D.
- 🗁 doc. Ing. Jan Fábry, Ph.D.
- 🗁 doc. Ing. Eva Jarošová, CSc.

**Abstract:** The Department of Logistics and Automotive Technology will participate in development of an application for predictive operational planning and management of complex manufacturing processes. The project is conducted in cooperation with DYNAMIC FUTURE s.r.o.

The project focuses on developing a universal and easily configurable, globally applicable application for predictive operational planning and management of complex manufacturing processes. Essentially, the application is going to change the technology type from dynamic to predictive planning, all in real time. This technology is not offered by any global players in information systems. The result of cooperation between ŠAVŠ and DYNAMIC FUTURE s.r.o. is going to be a functional application (alpha) and subsequent commercialization and market launch. Funding: Siemens, s.r.o.

The project was researched in 2016.

Budget: CZK 168,000.

Research team:

- 🖶 prof. Ing. Radim Lenort, Ph.D.
- 🗁 Ing. David Holman, Ph.D.
- 🗁 Ing. David Staš, Ph.D.
- 🗁 Ing. Pavel Wicher, Ph.D.

**Abstract:** Out of the total 350 suppliers of motor components for Siemens, s.r.o. o.z. Elektromotory Mohelnice, the new concept was used to identify those suppliers who would be able to implement the so-called milk run concept in their supply of components to the production plant. Based on the analysis, several Czech suppliers were selected. The new combination of their supplies reduced transportation costs, specifically CZK 560 thousand per year. Additionally, the concept was used to identify 6 more potential supplier zones (e.g. Poland, Germany, Italy, Austria), where optimization would bring further significant savings in transportation costs.

Ad 4. Concept of Optimal Use of FTS in the M1 Building, ŠKODA AUTO Funding: ŠKODA AUTO. The project was researched in 2018. Budget: CZK 150,000.

Research team:

- 🕾 prof. Ing. Radim Lenort, Ph.D.
- 🗁 Ing. David Holman, Ph.D.
- 🗁 Ing. David Staš, Ph.D.
- 🗁 Ing. Pavel Wicher, Ph.D.
- 🗁 doc. Ing. Jan Fábry, Ph.D.
- 🗇 students Pavel Kulhavý and Milan Kutáček.

**Abstract:** Automation of logistics processes is one of the key areas which ŠKODA AUTO Logistics has attempted to deal with

# The Green Solutions for Business and Industry project

The project is focused on sharing best practices in the green business education process with close links to industrial companies. It helped participants to understand and deal with the values of society using a balanced approach to economic and environmental efficiency.

current challenges in the competitive international environment of the automotive industry. Since 2012, the internal logistics in ŠKODA AUTO plants has used automated guided vehicles (AGV, FTS in German) to deliver high-variability parts from sequential workstations to the assembly line. ŠKODA AUTO's ever-expanding range of models places high demands on the internal logistics processes because of the growing number of car variants built on the same assembly line, which in turn requires more AGVs to ensure the supply of high-variability parts. A new model for calculating the utilisation of AGVs that was developed in cooperation with logistics experts from the Department of Logistics, Quality Management and Automotive Technology and technical services from logistics MB II was able to identify the bottlenecks in the current system of supply system and improve the utilisation of AGVs. The new calculation model will also be used in the future when introducing new models, ensuring a high level of long-term efficiency and quality of the entire supply system of high-variability parts.

### Selected publications:

HOLMAN, D., WICHER, P., LENORT, R., DOLEJŠOVÁ, V., STAŠ, D., GIURGIU, I. Sustainable Logistics Management in the 21st Century Requires Wholeness Systems Thinking. Sustainability, vol. 10, no. 12, 2018, pp. 1-26.

- LENORT, R., BUJAK, A., GESTRING, I., HOLMAN, D., IMPPOLA, J., KOZIOL, A., LIEBETRUTH, T., SOVIAR, J., STAŠ, D., WICHER, P. Sustainable Solutions for Supply Chain Management. Waldkirchen: rw&w Science & New Media Passau-Berlin-Prague, 2017. 184 p.
- STAŠ, D., LENORT, R., WICHER, P., HOLMAN, D. Green Transport Balanced Scorecard Model with Analytic Network Process Support. Sustainability, vol. 7, no. 11, 2015, pp. 15243-15261.
- LENORT, R., STAS, D., WICHER, P., HOLMAN, D., IGNATOWICZ, K. Comparative Study of Sustainable Key Performance Indicators in Metallurgical Industry. Rocznik Ochrona Srodowiska, vol. 19, 2017, pp. 36-51.
- STRAKA, M., LENORT, R., KHOURI, S., FELIKS, J. Design of Large-Scale Logistics Systems using Computer Simulation Hierarchic Structure. International Journal of Simulation Modelling, vol. 17, no. 1, 2018, pp. 105-118.

#### Other activities:

- Organiser of international congress Carpathian Logistics Congress 2018.
- Membership in the jury of the national contest Impuls Logistika for innovative logistics project and product organised by the journal Logistika published by Economia, a.s.
- Membership in the Committee for Logistics innovation and green awards in Logistics of ŠKODA AUTO, membership in the team Green strategy of Logistics of ŠKODA AUTO.
- Membership in professional organisations: Czech Logistics Association, GNSS Centre of Excellence, Lean & Green Czech, Chamber of Logistic Auditors.
- Membership in editorial boards of journals: Acta Logistica, Transport & Logistics.
- International partners: Dresden University of Applied Sciences (Germany), Fraunhofer Institute for Material Flow and Logistics (Germany), Regensburg University of Applied Sciences (Germany), Seinajöki University of Applied Sciences (Finland), University of Applied Sciences Upper Austria (Austria), University of Žilina (Slovakia).

Professional training: Innovative trends and inspirational reallife examples of supply chain management in the automotive industry.

#### Topic 2:

#### Industrial Systems Management and Lean Production

Academic personnel:

- 🗁 Ing. David Staš, Ph.D.
- 🕾 prof. Ing. Radim Lenort, Ph.D.
- 🗁 Ing. Pavel Wicher, Ph.D.

#### Key projects:

- Green Solutions for Business and Industry, Erasmus+, Key action: Cooperation for Innovation and the Exchange of Good Practices, Action: Strategic partnerships (for abstract see topic 1).
- Study of the Potential Use of Satellite Imaging Technology in Industrial Corporations, ŠKODA AUTO
- Design of a Logistics Concept for Handling Empty Containers and Chassis in the M13 Hall, ŠKODA AUTO

Ad 2. Study of the Potential Use of Satellite Imaging Technology in Industrial Corporations, ŠKODA AUTO Funding: ŠKODA AUTO The project was researched in 2016 Budget: CZK 257,000 Research team:

- 🖶 prof. Ing. Radim Lenort, Ph.D.
- 🗁 Ing. David Holman, Ph.D.
- 🗁 Ing. Pavel Wicher, Ph.D.
- 🗁 Ing. David Staš, Ph.D.

**Project partner:** VŠB – Technical University of Ostrava **Abstract:** The main objective of the study was to analyse and evaluate the potential of current and future use of satellite imaging technology with an emphasis on applications for industrial corporations. The result of the study was a detailed analysis of the technical parameters of current technology, global market and offered value-added services and products, sectors and applications, possibilities of industrial espionage abuse, application in image analysis, global market and technological trends and challenges. The outputs were presented also in Volkswagen AG.

**Ad 3.** Design of a Logistics Concept for Handling Empty Containers and Chassis in the M13 Hall, ŠKODA AUTO

#### Funding: ŠKODA AUTO

The project was researched in 2017.

Budget: CZK 85,000

Research team:

- 🗁 Ing. David Staš, Ph.D.
- 🗁 prof. Ing. Radim Lenort, Ph.D.
- 🗁 Ing. David Holman, Ph.D.
- 🗁 Ing. Pavel Wicher, Ph.D.
- students Jan Pekař, Zdeněk Pešta, Dominik Chamrad,
   Dmitry Famin

The project: "Prediction of Number of Defects and Costs of Anti-Corrosion Warranty" designed a methodology of prediction warranty costs for repairing defects caused by rusting in cars produced in a calendar year.

**Abstract:** The subject of the project was to propose optimisation of the empty container outflow workstation in M13 assembly hall of ŠKODA AUTO using organisational measures, automation/ mechanisation and structural modifications. The current flow of containers and chassis has been analysed, process changes were recommended and technical, logistics and capacity requirements for a new conveyor system were defined. The result of the project were the technical specifications for the tender for the conveyor system supplier.

#### Selected publications:

- STAŠ, D., LENORT, R. Critical Analysis of TPM Utilization in Terms of Metallurgical Industry. In CLC 2013: Carpathian Logistics Congress. Ostrava: Tanger, 2013, pp. 613-619.
- WICHER, P., STAŠ, D., KARKULA, M., LENORT, R., BESTA, P. A Computer Simulation-Based Analysis of Supply Chains Resilience in Industrial Environment. Metalurgija. Vol. 54, no. 4, 2015, pp. 703-706.
- LENORT, R., STAŠ, D., HOLMAN, D., WICHER, P. A3 Method as a Powerful Tool for Searching and Implementing Green Innovations in an Industrial Company Transport. Procedia Engineering. Vol. 192, 2017, pp. 533-538.
- LENORT, R., WICHER, P., STAŠ, D., HOLMAN, D. Potential of Satellite Based Earth Observation Use in Logistics. In CLC 2017: Carpathian Logistics Congress. Ostrava: TANGER, 2017, pp. 104-109.

#### Other activities:

- Membership in the professional organisation Lean & Green Czech.
- Professional training: The 5S method and its implementation, Fundamentals of lean production – LEAN, A3 report – high standard of problem resolution, Total Productive Maintenance.

#### Topic 3:

# Advanced Tools and Statistical Methods in Quality Management

Academic personnel:

- 🗁 Ing. Martin Folta, Ph.D.
- 🗁 doc. Ing. Eva Jarošová, CSc.

#### Key projects:

- 1. Advanced Methods of Statistical Process Control.
- Prediction of Number of Defects and Costs of Anti-Corrosion Warranty:
  - a. Functional Specification of the Prediction Tool
  - Application on Warranty Data of Selected Model Series and Production Years

Ad 1. Advanced Methods of Statistical Process Control. Funding: Internal Grant Agency (IGA) ŠAVŠ Duration: 2012–2015 Budget: CZK 655,000

#### Research team:

- 🗁 doc. Ing. Eva Jarošová, CSc.
- prof. Ing. Darja Noskievičová, CSc.
   (VŠB-Technical University of Ostrava)
- 🗁 Ing. Martin Folta, Ph.D.

Abstract: The aim was to prepare procedures based on statistical process control and experiment design used for continuous improvement of production processes. In addition to describing various advanced methods, an approach was developed including the methods of verifying their assumptions and deciding on the choice of a suitable control chart. In addition to statistical process control (SPC), which as a result of gradual identification and elimination of identifiable causes leads to reduction in unwanted process variability, attention was also paid to another way of increasing the performance of the process through experimentation. The results of the project will help solve problems faced by managers in many companies in their effort to apply SPC. SPC is compulsory for automotive suppliers and the Shewhart charts, which are most commonly used, are often inappropriate in the new conditions of production.

**Ad 2.** Prediction of Number of Defects and Costs of Anti-Corrosion Warranty:

- a. Functional Specification of the Prediction Tool
- Application on Warranty Data of Selected Model Series and Production Years

Funding: ŠKODA AUTO The project was researched in 2016. Budget: CZK 140,000. Research team:

- 🕾 doc. Ing. Eva Jarošová, CSc.
- 🗁 Mgr. Petr Šulc (for the KIKM department)
- 🗁 Mgr. Radka Picková, Ph.D.
- 🗁 Mgr. Petr Kasal

**Abstract**: The project designed a methodology of prediction warranty costs for repairing defects caused by rusting in cars produced in a given calendar year. The methodology allows for planning of financial reserves for repairs so that the estimates of reserves correspond to the accounting standards of external audit of economic results. The established methodology was validated on warranty data corresponding to global production of one model series. Additionally, a prediction of repair costs was made for several other model series.

Selected publications:

- JAROŠOVÁ, E. Control Charts for Processes with an Inherent Between-Sample Variation. Statistika: Statistics and Economy Journal. No. 2, 2018, pp. 150-160.
- JAROŠOVÁ, E., NOSKIEVIČOVÁ, D., BRODECKÁ, K. Application of Bernoulli Process-based Charts to Electronic Assembly. International Journal of Engineering Business Management. 2015. Vol. 7, no. 14, pp. 1-10.
- JAROŠOVÁ, E., NOSKIEVIČOVÁ, D. Pokročilejší metody statistické regulace procesu. Praha: Grada Publishing, a.s., 2015. 290 p.
- FOLTA, M., BRADÁČ, P. Production Part Approval Process in the Metallurgical Sector for Automotive Industry. In METAL 2015: 24rd International Conference on Metallurgy and Materials. Ostrava: Tanger, 2015, pp. 1915-1921.
- JAROŠOVÁ, E. Application of Response Surface Methodology. Aplimat - Journal of Applied Mathematics and Engineering, 2014, pp. 17 – 28. ISSN 1337-6365.

Other activities:

- Professional organisations: IATF (International Automotive Task Force), VDA QMC (Qualitäts Management Center im Verband der Automobilindustrie), Technical Standards Commission TNK4 of the Czech Standardization Agency.
- Cooperation with the Quality Austria certification company
   certification of supply chains in the automotive industry.

#### Topic 4:

#### Mathematical Modelling and Optimisation

Academic personnel:

- 🖶 doc. Ing. Jan Fábry, Ph.D.
- 🗁 prof. Dr. Ing. Otto Pastor, CSc.

#### Key project:

Methodological Support of Simulation Studies in Production and Logistics Processes of ŠKODA AUTO – Preparation and Verification of a Methodology to Eliminate False Fault Reports on Technical Equipment.

Funding: ŠKODA AUTO

The project was researched in 2017.

#### Budget: CZK 200,000

Research team:

- 🗇 doc. Ing. Jan Fábry, Ph.D.
- 🕾 prof. Ing. Radim Lenort, Ph.D.
- 🗁 Ing. David Holman, Ph.D.
- 🕾 Ing. Pavel Wicher, Ph.D.
- 🗁 Ing. David Staš, Ph.D.

**Abstract**: The aim of the project was to design a methodology to eliminate false fault reports on technical equipment. Based on verification of the simulation model, it was found that the behaviour of the model differs from behaviour of a real system. The problem lies in recording false faults. The analytical part of the project covers identification of the variants of false faults reports, especially those that occur outside of the working hours and parallel faults. False fault reports occur also in the case of downtime between two consecutive operations (the fault occurs during one operation and is removed during the following operation). False fault reports can also be detected if the alleged fault did not prolong the operating cycle on the device. Simulation experiments were conducted under the project focusing on the verification of correct operation of the established methodology. By applying the methodology to the simulation model, changes were made to the incorrectly set fault parameters to adjust them to correct values, moving the behaviour model closer to the behaviour of a real system.

Selected publications:

- FÁBRY, J. Insertion method for multiple messenger problem with multiple depots. Communications. Vol. 17, no. 2, 2015, pp. 11-14.
- PELIKÁN, J., FÁBRY, J. Double system parts optimization: static and dynamic model. Central European Journal of Operations Research. Vol. 23, no. 1, 2015, pp. 115-123.
- FÁBRY, J. Řešení vybraných přepravních úloh. Ekonomika a informatika. Vol. 13, no. 1, 2015, pp. 13-28.
- ŠTĚDROŇ, B., MOOS, P., PALÍŠKOVÁ, M., PASTOR, O., SVÍTEK, M., SVOBODA, L. a kol. Manažerské rozhodování v praxi. Praha: C. H. Beck, 2015.

# Contract research project

Methodological Support of Simulation Studies in Production and Logistics Processes of ŠKODA AUTO - Preparation and Verification of a Methodology to Eliminate False Fault Reports on Technical Equipment" Other activities:

- Professional organisations: Czech Society for Operational Research.
- Membership in agenda boards of international conferences (Mathematical Methods in Economics).

#### Topic 5:

#### New Trends, Technologies and Materials in the Automotive Industry

Academic personnel:

- 🗁 Ing. Josef Bradáč, Ph.D.
- 🗁 Ing. Jiří Sobotka, Ph.D.

#### Key project:

Green Solutions for Business and Industry, Erasmus+, Key action: Cooperation for innovation and the exchange of good practices, Action: Strategic partnerships (for abstract see topic 1).

#### Selected publications:

- VRÁNA, T., BRADÁČ, J., KOVANDA, J. Elasto-kinematic Computational Model of Suspension with Flexible Supporting Elements. Acta Polytechnica. Vol. 56, no. 2, 2016, pp. 147-155.
- BRADÁČ, J., FOLTA, M. Evaluation of Heat Treatment Methods used for the Production of Transmission Components. In Metal 2016: 25th International Conference on Metallurgy and Materials. Ostrava: TANGER, 2016, pp. 132-137.
- VRÁNA, T., BRADÁČ, J., KOVANDA, J. Stress-Strain Analysis of the Differential Cage Using the Numerical Simulation Model. Engineering Mechanics. Vol. 22, no. 2, 2015, pp. 73-82.

#### Other activities:

- Professional organisations: Czech Society for New Materials and Technology, Czech Society for Mechanics.
- Professional training: Welding technology in the automotive industry, development of the modern automobile, new materials and technologies used in car manufacturing.





The representatives of ŠAVŠ and Technical University of Košice, Faculty of mining, ecology, process control and geotechnologies (Slovakia) signed an agreement on mutual cooperation on November 5, 2018

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from the left Vladislav Flek, Jiří Malý, Stanislav Šaroch, Šárka Dvořáková, Pavel Neset

# Department of Law and Economics KEP

he Department of Law and Economics provides – as its title suggests – courses in two basic fields required in the knowledge and skill set of every business economist. In addition, it is also the specialised department for the follow-on Master's degree study field Law in the Global Business Environment and also significantly contributing at the same time to teaching courses in a number of other specialisations taught at ŠAVŠ. In addition to teaching, the lecturers of this department also serve in an expert capacity to address practical issues in their respective fields. They are also active in the field of academic publishing, representing the university in the international academic community. In addition to these activities, they are members of professional and expert organisations.

## Mgr. Pavel Neset, Ph.D.

He graduated from the Masaryk University in Brno in the field of Philosophy and Economics. He defended his dissertation thesis at the Faculty of Economics and Administration of the Masaryk University in Brno in 2008, acquiring his Ph.D. degree.

Between 1997 and 2003 he lectured in the Department of Macroeconomics at the Faculty of Economics at the University of Economics, Prague, where he later worked as Vice-Dean for Teaching. Between 2008 and 2017, he worked as a Vice-Rector for Teaching and Study Affairs at the Business College in Prague.

His teaching and professional activities focus on macroeconomics, microeconomics and international economics. In terms of economics, he focuses on the methods of the new Keynesian economics and their application in economic policy.





## prof. Ing. Stanislav Šaroch, Ph.D.

Stanislav Šaroch is a long-time university lecturer. He graduated from the Faculty of Economics at the University of Economics, Prague, in the field of Economic Policy (Ing.), followed by doctoral studies in the same field (Ph.D.). In 2003, he was appointed associate professor in Economic Policy at the Faculty of Economics, becoming the youngest associate professor of the faculty for some time. In 2018, he became professor at the Faculty of International Relations of the University of Economics, Prague in International Economic Relations.

Since 2004, he has worked full-time at ŠAVŠ and has contributed to the accreditation of four follow-on Master's degree programmes as well as the modernisation and expansion of Bachelor's and Master's programmes. Since 2005, he has also University of Economics, Prague, lecturing doctoral students and acting as coordinator of a secondary specialisation in follow-on Master's studies. In addition to publishing a number of expert articles and chapters in monographs, especially in the field of working on the translation of the internationally used textbook Economics of European Integration by Baldwin and Wyplosz (translation of the 2nd edition 2008, translation of the 4th edition 2013). In teaching, he specialises in the fields of international economics, economics of European integration, economic policy, a member of the Czech Economic Society and has been a member of the Czech Banking Association. He has been a member of editorial and executive boards of several scientific journals. As a supervisor of doctoral students, he also works at the Masaryk University in Brno and the VŠB - Technical University of Ostrava. Since 2016, he has been a member of the team of evaluators of the National Accreditation Bureau for higher education for economic sciences.

#### Specializations:

International economics, macroeconomics, economic policy, economic convergence.

## doc. JUDr. Václav Šmejkal, Ph.D., DEA

Member of the Department of Law and Economics at ŠAVŠ, associate professor in the Department of European Law of the Faculty of Law at Charles University in Prague, arbiter of the Arbitration Court attached to the Economic Chamber of the Czech Republic and Agricultural Chamber of the Czech Republic. He graduated from international relations and international law at universities in Moscow, Toulouse and Prague and went on long-term study visits to Paris, London and Antwerp. He worked as the director of Czech Business Representation in Brussels, as a journalist, corporate consultant and legal specialist in a law firm. He is an expert in EU law, as a teacher and researcher he focuses primarily on the field of competition, consumer protection and social rights. He also managed several research grant projects and has authored and co-authored a number of monographs and articles about the projects in professional journals in the Czech Republic and abroad.

#### Specializations

Competition, consumer protection, social law.





## prof. Ing. Josef Jílek, CSc.

Josef Jilek is a Czech economist, university lecturer and native of the town of Litomyšl. He graduated in 1981 (summa cum laude) and continued his studies and internships and gave lectures at foreign universities such as Brown University, Washington State University, North Carolina State University, University of Ghent, Reading University and London School of Economics. In addition, he worked in several foreign research centres, such as Silsoe Research Institute or Loughborough University of Technology. His collaborators included, for example, professor D. T. Llewellyn (Loughborough University of Technology) and professor C. Goodhart (London School of Economics). He gained practical experience in financial institutions such as J. P. Morgan, Barclays Bank, Lehman Brothers, Federal Reserve Bank of New York, Bank of England, Bundesbank and Banque de France.

In 1995 he became associate professor in the field of national economy and was appointed professor in the same field in 1999. He is known for many domestic and foreign publications on derivatives, financial risk management and accounting. He significantly contributed to the implementation of International Financial Reporting Standards in the Czech Republic. He is a member of many expert groups in the European Banking Authority (EBA), European Securities and Markets Authority (ESMA) and European Insurance and Occupational Pensions Authority (EIOPA).

#### Specializations:

Financial markets, banking, financial risk management, derivatives, accounting, IFRS.

## doc. Ing. Pavel Mertlík, CSc.

Pavel Mertlík is a leading Czech economist and a long-time university lecturer. He graduated from the Faculty of Economics at the University of Economics, Prague in the field of Political Economics (Ing.), followed by General Economics (CSc.). In 1998 he completed his habilitation at the Faculty of Social Sciences at Charles University in Prague in the field of Economics.

He served as Deputy Prime Minister between 1998 and 2001 and as Minister of Finance from 1999. After retiring from politics, he worked for eleven years as the chief economist at Raiffeisenbank. He served as advisor of the Czech Prime Minister for the government of Bohuslav Sobotka.

#### Specializations:

Microeconomics, macroeconomics, institutional economics, economic policy and history of economic theories.





## doc. Ing. Vladislav Flek, CSc.

Vladislav Flek graduated in 1985 from the Faculty of Economics at the University of Economics, Prague (Ing.). He acquired the CSc. degree in 1992 at the Economic Institute of the Czechoslovak Academy of Sciences, where he worked until this year as a specialist. He successfully finished his habilitation in 2009 at the Faculty of Social Sciences at Charles University in Prague in the field of Economic Theory. In 1997, he opened the Bachelor's degree course Labour Economics at the Institute of Economic Studies of the same faculty, which he still teaches today. Most of his previous professional career was related to the Czech National Bank (1993-2007), where he worked as a researcher, main economy analyst, coordinator of economic research and monetary advisor to the bank board. Vladislav Flek then worked in the office of the Minister of Finance as an expert on the euro until 2011. He has completed a number of international research scholarships, including Oxford – Pembroke College or Stanford University in the USA (Fulbright Scholarship). He has worked for ŠAVŠ since 2015.

In addition, he has also taught at universities and participated at international research projects and intensive publishing activities.

#### Specializations

Labour market, economic growth, economy structure, real convergence and exchange rates.

#### **Research topics:**

#### Topic 1:

International Comparison of Competitiveness and Development of Competitiveness of Countries Focusing on the EU.

Academic personnel:

- 🗇 prof. Ing. Stanislav Šaroch, Ph.D.
- 🖯 doc. JUDr. Václav Šmejkal, Ph.D., DEA
- 🕾 PhDr. Jiří Malý, Ph.D.

#### Key project:

Possibilities and Powers of the EU and the Goal of Highly Competitive Social Market Economy under Art. 3 par. 3 of the TEU **Funding:** GACR **Duration:** 2014-2016 **Budget:** CZK 991,000 Research team:

Research team:

- 🖶 doc. JUDr. Václav Šmejkal, Ph.D.
- 🗁 prof. Ing. Stanislav Šaroch, Ph.D.
- 🗇 doc. JUDr. Pavel Svoboda, Ph.D. (Charles University in Prague).

Abstract: Article 3 (3) of the TEU defines a new objective for the Union - to strive for a highly competitive social market economy. Art. 3 (3) is specific because, despite talking about the internal EU market, the authors of the TEU have incorporated far more social solidarity values than liberal market values. Through a teleological interpretation of EU competences by the Court of Justice, Article 3 (3) can strongly influence the activities of the EU. However, does today's EU have the opportunity and authority to achieve these goals to a reasonable degree? This is an economic-political and legal-political question. Therefore, researching it consists of a blend of both approaches. The first aimed to find out whether the objective of Article 3 (3) of the TEU has specific content in the current economic theory and whether the economic policy based on it is feasible in the current global competition. The goal of the second approach was to examine whether the authority entrusted to the EU even allow it to achieve this objective. As a secondary goal, it should

# The result of the Czech Science Foundation project:

"Possibilities and Powers of the EU and the Goal of Highly Competitive Social Market Economy under Art. 3 par. 3 of the TEU" is the finding that the social market economy represents for the current EU a promising and useful goal, which, however, the EU is not able to achieve alone.

answer whether this objective is not rather a barrier to further development of integration based on opening markets and free competition.

Conclusions: The research project was not intended to prove or disprove any clear-cut hypothesis, but to show how the EU approaches the goal of building a social market economy, whether it has the power and possibilities to fulfil this and whether it is, in the current situation, able to achieve this goal. This objective was fulfilled. A thorough comparison of EU competences, of the EU Court of Justice case law, of EU policies and initiatives with a modern version of the social market economy was carried out.

The result is the finding that the social market economy represents for the current EU a promising and useful goal, which, however, the EU is not able to achieve alone. The EU does not have either the powers or budget resources, and above all it does not have the necessary social base that would ensure the political and social consensus needed to build a full-fledged European social model. At the same time, the research has shown that the EU can already adopt and implement a number of measures which would bring it nearer to the objective of social market economy. Some of these measures have been developed in the project outputs to specific sub-recommendations; others have only been generally characterised. Either they have been designed in detail elsewhere, or do not appear to be achievable in foreseeable future.

#### Selected publications:

- ŠMEJKAL, V. Ten Years After the Viking Judgment: EU Court of Justice Still in Search of Balance Between Market Freedoms and Social Rights. Czech Yearbook of Public and Private International Law. 2017. vol. 8, pp. 182-196. ISSN 1805-0565.
- ŠAROCH, S., ŠMEJKAL, V. Can the model of a social market economy lead the EU out of the impasse? The view of a lawyer and an economist on the necessary changes at EU level. Scientia & Societas. 2016. vol. 12, no. 1, pp. 16-31. ISSN 1801-7118.
- ŠAROCH, S., SVOBODA, P., ŠMEJKAL, V. European Union as a Highly Competitive Social Market Economy. Waldkirchen, Germany: rw&w Science & New Media, 2016. 172 pages. ISBN 978-3-946915-03-4.
- ŠMEJKAL, V. Saving the EU and its welfare states through disincentives to migration? On recent CJEU case-law limiting the access of EU migrants to social assistance. Czech Yearbook of Public and Private International Law. 2016. vol. 6, pp. 154-170. ISSN 1805-0565.
- ŠMEJKAL, V. Social or Highly Competitive Europe? EU Law Solution to Conflict of Social Security and Competition Law. The Lawyer Quarterly. 2016. vol. 6, no. 1, pp. 18-27. ISSN 1805-840X.
- ŠMEJKAL, V. Competition Law and the Social Market Economy Goal of the EU. International Comparative Jurisprudence.
   2015. vol. 1, no. 1, pp. 33-43. ISSN 2351-6674.
- ŠMEJKAL, V., ŠAROCH, S. EU as a Highly Competitive Social Market Economy - Goal, Options, and Reality. Review of Economic Perspectives - Národohospodářský obzor. 2014. vol. 14, no. 4, pp. 393-410. ISSN 1213-2446.

#### Topic 2:

#### Economic Policy of the EU and EU Member States

Academic personnel:

- 🖶 prof. Ing. Stanislav Šaroch, Ph.D.
- 🕾 PhDr. Jiří Malý, Ph.D.

#### Selected publications:

- ŠAROCH, S., FAMFULE, J. European Banking Union: Current State of Play and how to Fix its Weaknesses. Současná Evropa. 2017. no. 1, pp. 17-29. ISSN 1804-1280.
- ŠMEJKAL, V. Comparing CJEU approaches to Clashes of Social Partners' Collective Bargaining with Internal Market Freedoms and Competition Rules. Law and Forensic Science. 2017. vol. 13, no. 1, pp. 39-51. ISSN 2080-9670.
- ŠMEJKAL, V. Ten Years After Viking Judgment: EU Court of Justice Still in Search of Balance Between Market Freedoms and Social Rights. Czech Yearbook of Public and Private International Law. 2017. vol. 8, pp. 182-196. ISSN 1805-0565.
- MALÝ, J. Stále užší Unie: přínosná, nebo pochybná cesta při řešení problémů EU a jejích členských států?. Scientia & Societas. 2016. vol. 12, no. 2, pp. 3-16. ISSN 1801-7118.
- MALÝ, J. Brexit: první krok k rozpadu Evropské unie?. Scientia & Societas. 2016. vol. 12, no. 4, pp. 3-21. ISSN 1801-7118.

#### Other activities:

Organisation of roundtables in the Liechtenstein Palace in Prague as part of public tenders of the Office of the Czech Government on selected topics:

- National Convention on the EU: "Internal Market as a Convergence Tool", 25/05/2018; prof. Ing. Stanislav Šaroch, Ph.D., PhDr. Jiří Malý, Ph.D.
- National Convention on the EU: "Benefits and Risks of Globalization for Business and Investment", 8/12/2017; prof. Ing. Stanislav Šaroch, Ph.D.; doc. JUDr. Václav Šmejkal, Ph.D.
- National Convention on the EU: "Future of the Eurozone and the Czech Republic", 10/11/2017; prof. Ing. Stanislav Šaroch, Ph.D., Mgr. Jarolím Antal, Ph.D. (University of Economics, Prague).

#### Topic 3:

#### Protection of Competition in the EU

Academic personnel:

🗁 doc. JUDr. Václav Šmejkal, Ph.D.

#### Selected publications:

- ŠMEJKAL, V. Rok od rozhodnutí Google Search (shopping)

   ochrana soutěže na trzích online platforem v obtížném hledání odpovědí na zásadní otázky. Antitrust – Revue soutěžního práva. no. 3/2018 p. 71-77. ISSN 1804-183.
- ŠMEJKAL, V. Comparing CJEU approaches to Clashes of Social Partners' Collective Bargaining with Internal Market Freedoms and Competition Rules. Law and Forensic Science. 2017. vol. 13, no. 1, pp. 39--51. ISSN 2080-9670.
- ŠMEJKAL, V., FRISCHMANN, P. 2016 Amendment to the Czech Significant Market Power Act. Yearbook of Antitrust and Regulatory Studies (YARS). 2016. vol. 9, no. 14, pp. 227-245. ISSN 1689-9024.
- ŠMEJKAL, V. Competition Law and the Social Market Economy Goal of the EU. International Comparative Jurisprudence.
   2015. vol. 1, no. 1, pp. 33--43. ISSN 2351-6674.
- ŠMEJKAL, V. Soutěžní politika a právo Evropské unie 1950-2015: vývoj, mezníky, tendence a komentované dokumenty. Prague: Leges, 2015. 336 pages. ISBN 978-80-7502-108-3.

#### Topic 4:

# International Economic Comparisons and International Economic Relations

Academic personnel:

🗇 prof. Ing. Stanislav Šaroch, Ph.D.

#### Selected publications:

- ŠAROCH, S., ŽĎÁREK, V. Non-Tradable Goods in Catching-up European Countries - an Institutional Puzzle? European Scientific Journal. 2015. vol. 28, no. 11, pp. 1-22. ISSN 1857-7431.
- ŠAROCH, S., ŠTRACH, P., HÁJEK, P. Public Debt, Real and Nominal Convergence in Public Sectors of CEE Countries. In Economies of

Central and Eastern Europe: Convergence, Opportunities and Challenges. 1st ed. Tallin, Estonia: Tallinn University of Technology, 2010, pp. 1--11. ISBN 978-9949-430-37-6.

- ŠAROCH, S., DOLEJŠÍ, A., BIČ, J. Real and Nominal Convergence or Falling Behind? What Does the Comparison of Time Series of International Comparison of GDP and PPP p.c. with WEF Growth Competitiveness Indexes Tell us?. In Economies of Central and Eastern Europe: Convergence, Opportunities and Challenges. 1st ed. Tallinn, Estonia: Tallinn University of Technology, 2011, pp. 1--21. ISBN 978-9949-430-50-5.
- ŠAROCH, S., DOLEJŠÍ, A., ŠMEJKAL, V. Matching Competitiveness with European Prosperity: What do the International Comparisons Tell us?. In Economic Challenges in Enlarged Europe. Tallinn, Estonia: 2013, pp. 1--13. ISBN 978-9949-430-64-2.

#### Topic 5:

#### Labour Market Economics

Academic and research personnel:

- 🗇 doc. Ing. Vladislav Flek, CSc.
- 🗁 PhDr. Martina Mysíková, Ph.D.
- 🕾 RNDr. Martin Hála, CSc.

#### Selected publications:

- FLEK, V., HÁLA, M., MYSÍKOVÁ, M. Nezaměstnanost a věková segmentace trhu práce. Politická ekonomie. 2018. vol. 66, no. 6, pp. 709-731. ISSN 0032-3233.
- FLEK, V., MYSÍKOVÁ, M. Youth Labour Flows and Unemployment in Great Recession: Comparing Spain and the Czech Republic. Review of Economic Perspectives - Národohospodářský obzor. 2015. vol. 15, no. 2, pp. 179-195. ISSN 1213-2446.
- FLEK, V., MYSÍKOVÁ, M., HÁLA, M. Labour Market Response to Economic Crisis in Central Europe. Is there Room for Common Policy Approach? Economics and Sociology. 2015. vol. 8, no. 2, pp. 15-27. ISSN 2071-789X.
- FLEK, V. Duration Dependence and Exits from Youth Unemployment in Spain and the Czech Republic. Economic Research. 2015. vol. 28, no. 1, pp. 1063-1078. ISSN 1848-9664.



from the left Karel Pavlica, Ingrid Matoušková, Eva Švejdarová, Alemayehu Kumsa

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KRLZ

# Department of Human Resources Management KRLZ

he Department of HR Management provides courses at Bachelor's and Master's level. The department runs the Bachelor field of study Business Administration and Human Resources Management, which was successfully accredited in 2015 and covers mainly courses in personnel management and psychology and sociology for HR professionals. Experts in the field participate in the teaching process. At the Master's level, the department focuses on courses on development of managerial skills, organisational culture and intercultural management.

### doc. PhDr. Karel Pavlica, Ph.D.

Karel Pavlica graduated from the Philosophical Faculty of the Comenius University in Bratislava, field of study Psychology (PhDr.). In 1996, he acquired his Ph.D. degree at Manchester Metropolitan University in Management. In 2001, he completed his habilitation at the Faculty of Business Administration at the University of Economics, Prague in Business Economics and Management. Since 2005, he has worked at ŠAVŠ, currently lecturing in the follow-on Master's programme in courses related to managerial psychology and sociology – Development of Social and Managerial Potential and Culture, Organization and Management, both in Czech and English. At the same time, he has been the coordinator of the Bachelor field of study Business Economics and Human Resources Management since 2015. Recently, he has worked on research projects dealing with leadership and organisational culture. He is the author of many professional publications.



#### Research topic:

#### Leadership and Organisational Culture

Academic personnel:

- 🖶 doc. PhDr. Karel Pavlica, Ph.D.
- 🗁 PhDr. Ingrid Matoušková, Ph.D.
- 🗁 Mgr. Eva Švejdarová, Ph.D., M.A.
- 🗁 PhDr. Alemayehu Kumsa, Ph.D.
- 🗁 and external collaborators.

#### Key projects:

- Harmonisation of Individual and Contextual Prerequisites of Effective Leadership and Self-Development of People in Organisations
- 2. Versatility in Corporate Management and its Reflection in the Organisation Culture

**Ad 1.** Harmonisation of Individual and Contextual Prerequisites of Effective Leadership and Self-Development of People in Organisations

#### Funding: IGA ŠAVŠ

Duration: 2007-2010

Research team:

- 🗁 doc. PhDr. Karel Pavlica, Ph.D.
- 🗁 Ing. Lada Honzáková
- doc. PhDr. Ing. Eva Jarošová, Ph.D.,(University of Economics, Prague)
- 🗁 R. Kaiser (Kaplan DeVries Inc.)

Abstract: The department conducted a research project of the Internal Grant Agency registered as IGA MM/07/. In terms of content, it focused on verifying the possibility of using the concept of versatile leadership and the Leadership Versatility Index (LVI©) method designed by the American psychologists B. Kaplan and R. Kaiser. The concept and method were verified on a sample of promising managers in ŠKODA AUTO. The theory of versatile leadership and the LVI© method proved to be suitable and beneficial for use in Czech conditions. In addition to conference papers and expert articles, the project also resulted in a published book: PAVLICA, K., JAROŠOVÁ, E., KAISER, R. B. Versatilní vedení. Dynamická rovnováha manažerských dovedností. Prague, Management Press 2010, ISBN 978-80-7261-208-6, used in the field of personal development of managers.

Ad 2. Versatility in Corporate Management and its Reflection in the Organisation Culture Funding: IGA ŠAVŠ Duration: 2012–2015

Research team:

- 🗁 doc. PhDr. Karel Pavlica, Ph.D.
- 🗁 Ing. Lada Honzáková
- doc. PhDr. Ing. Eva Jarošová, Ph.D., (University of Economics, Prague)
- 🗁 R. Kaiser (Kaplan DeVries Inc.)

A project focused on the verification of a possibility to apply in the Czech context the American (B. Kaplan and R. Kaiser) concept of versatile leadership.

Abstract: Between 2012 and 2015 the previous successful research was followed by a project of the IGA registered as IGA/2012/7. The project focused on the identification of relationships between versatility of top managers (measured using the LVI© method) and the culture of organisations managed by them (analysed using the Denison Organizational Culture Survey method) as well as on defining recommendations aimed at effectively linking personal development of managers to management of organisational culture. The research was conducted in three different industrial companies active on the Czech market. In general, it confirmed the assumption that the more versatile corporate management is, the more effective

the culture of the organisation managed by it is. In addition to several conference papers and expert articles in Czech and foreign journals, the project also resulted in a published book: PAVLICA, K., JAROŠOVÁ, E., KAISER, R. B. Vyvážený Leadership. Dynamika manažerských dovedností. 2nd expanded and updated edition. Prague, Management Press 2015, ISBN 978-80-7261-289-5.

#### Selected publications:

- PAVLICA, K., JAROŠOVÁ, E., KAISER, R. B. Versatilní vedení. Dynamická rovnováha manažerských dovedností. Prague, Management Press 2010, ISBN 978-80-7261-208-6.
- PAVLICA, K., JAROŠOVÁ, E., KAISER, R. B. Versatilní vedení: podstata a zkušenosti s jeho aplikací. Scientia & Societas, 1/2011, pp. 134 – 148, ISSN 1801-7118.
- VESELY, M., MÜHLBACHER, J., PAVLICA, K. Manažerské kompetence v České republice – stávající situace a očekávaný vývoj očima českých manažerů. Psychologie pro praxi, 3 – 4 / 2013, XLVIII, pp. 49 – 62, ISSN 1803-8670.
- PAVLICA, K., JAROŠOVÁ, E., KAISER, R. B. Vyvážený Leadership. Dynamika manažerských dovedností. 2nd expanded and updated edition. Prague, Management Press 2015, ISBN 978-80-7261-289-5.
- PAVLICA, K., MATOUŠKOVÁ, I. Manažerská kariéra a práce očima praktiků a studentů. Socioekonomické a humanitní studie, 2 / 2016, Vol. 6, pp. 52 – 61, ISSN 1804 – 6797.
- PAVLICA, K., MATOUŠKOVÁ, I. Vyvážený leadership nový model rozvoje manažerů pro éru digitalizace. Regionální rozvoj mezi teorií a praxí, 4/2017, pp. 33 – 38, ISSN 1805-3246.

#### Other activities:

- members of the department offer courses and consultancy services in human resources management, formation of organisational culture, leadership and development of managerial and social skills.
- Doc. Pavlica in the TACR project no. TL01000147 focused on creating an implementation methodology for e-Government in the Czech Republic (see the Department of Finance and Accounting).





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# Department of Informatics and Quantitative Methods KIKM

he Department of Informatics and Quantitative Methods focuses primarily on teaching the core subjects of study programmes. Their aim is to equip students with the necessary competencies in ICT and quantitative methods. Research focus of the department: statistical data processing and prediction of development of economic processes at the company and national level. Partners of the project include particularly ŠKODA AUTO and the Automotive Industry Association (AutoSAP). In terms of research, the department collaborates with the departments of marketing and management (KMM); logistics, quality and automotive technology (KLAT) and law and economics (KEP).

## Mgr. Petr Šulc

Petr Šulc has worked at ŠAVŠ since its inception in 2000. He graduated from the Faculty of Science at Prague's Charles University in Prague, in the field of Geography and Mathematics.

He was a teacher at the Dr. Josef Pekař grammar school in Mladá Boleslav between 1992 and 1996. In 1996 he moved to technical college ŠKODA AUTO, where he worked as deputy headmaster. He participated in the foundation of ŠKODA AUTO UNIVERSITY in 1999-2000. He was later appointed Vice-Rector for Academic Affairs at ŠAVŠ. After the transformation of ŠKODA AUTO UNIVERSITY into a separate legal entity in 2013, he became the Rector. He was in this position until 2015. During his time at ŠAVŠ, he contributed significantly to all the transformation, accreditation and many other development projects of the university. In addition to heading the department, he holds the post of Vice-Rector for Study Affairs and Quality Management. He focuses on teaching mathematics and statistics and provides advice to the students of ŠAVŠ in study organisation. He collaborates on expert projects in applied statistics.



#### Selected contract research project:

- Prediction of Number of Defects and Costs of Anti-Corrosion Warranty:
  - a. Functional Specification of the Prediction Tool
  - **b.** Application on Warranty Data of Selected Model Series and Production Years
  - For the project abstract see topic 3 in KLAT.
- Analysis of Risks of the India Project Depending on the Development of Selected Macroeconomic Indicators
   Funding: ŠKODA AUTO

The project was researched in 2018.

Budget: CZK 263,000

Research team:

- 🗇 doc. Ing. Pavel Mertlík, CSc.
- 🗁 doc. Ing. Eva Jarošová, CSc.
- 🖶 doc. Ing. Romana Čižinská, Ph.D.
- 🗁 Mgr. Petr Šulc
- 🗁 Mgr. Radka Picková, Ph.D.
- 🗁 Mgr. Petr Kasal.

**Abstract:** Analysis was performed of the risks of the India project depending on the development of selected macroeconomic indicators using the @Risk software tool. Using

In the frame of the project "The Concept of Statistical Data Processing and Macroeconomic Analysis" financed by AutoSap, the researchers prepared analyses and comments on the links between development of data from the automotive industry and macroeconomic phenomena (sales, export, vehicle production, wages and employee numbers). They have reviewed the data obtained from member and non-member automotive companies and designed an effective tool for collecting, archiving and processing of the data. this programme, a model was built that simulates the impact of development and fluctuation of these indicators on the operational result in the Indian market. Selected employees of ŠKODA AUTO were trained to work with this software tool and use this model.

## 3. The Concept of Statistical Data Processing and Macroeconomic Analysis I and II

#### Funding: AutoSAP

The project was researched in 2017 and 2018. **Budget:** CZK 170,000

Research team:

- 🗁 doc. Ing. Pavel Mertlík, CSc.
- 🗁 Mgr. Radka Picková, Ph.D.
- 🗁 Mgr. Petr Kasal
- 🗁 Ing. Martin Juhas.

**Abstract:** The researchers prepared analyses and comments on the links between development of data from the automotive industry and macroeconomic phenomena (sales, export, vehicle production, wages and employee numbers). They have reviewed the data obtained from member and non-member automotive companies and designed an effective tool for collecting, archiving and processing of the data.







Department of Languages and Intercultural Competences KJPIK

his department offers the students of Bachelor's and Master's degree programmes a wide range of professionally and academically oriented language modules together with courses in intercultural and communication competences. The department is also a registered examination centre for the Cambridge International Certificates. The academic personnel of the department are involved in a number of educational projects, publishing and are in contact with the professional public. They continuously monitor not only the current trends in languages, but also the current requirements of everyday work. Thanks to feedback from students and employers from the Czech Republic and abroad, the department has succeeded in producing linguistically well-trained graduates for the labour market.

## Mgr. Pavlína Příbramská

Pavlína Příbramská graduated from the Faculty of Humanities at the University of Pardubice. She has 20 years experience in foreign language teaching. At the ŠKODA AUTO UNIVERSITY she teaches Business English at the Bachelor's programme. In 2013, she became the supervisor of the B2 level courses in the Bachelor programme. She is also responsible for conducting and creating an e-learning project for B2 courses in Moodle for both full-time and part-time students. Furthermore, she participates in the preparation and administration of final e-testing procedures for students of all B2 modules. Since 2017, she has been organizing and administrating the Cambridge Exams at the ŠKODA AUTO UNIVERSITY. In 2018, she was awarded the Cambridge Examiner status. Under her leadership, the ŠKODA AUTO UNIVERSITY has become a certified preparatory centre for Cambridge Exams.



#### Research activities:

- 🗐 Critical incidents
- Dualitative research (Focus groups, interviews)
- Videoconferences
- 🗐 Student grants
- 🗐 Theses supervision

#### Training activities:

- Summer schools
- Training seminars for companies
- 🔝 Language training of academics and other personnel
- Adaptation workshops and seminars for students
  - 🔄 Students of the Erasmus programme
  - Foreign students and interns
  - Topics:
    - Cultural adaptation, cultural shock, integration of foreigners
    - Cultural dimensions and development of intercultural competences
    - Psycholinguistics and language pragmatics

#### **Research topics**

#### Topic 1:

#### **Modern Teaching Methods**

**Focus:** Critical thinking, cooperative learning, communication skills Academic personnel:

- 🕾 Mgr. Dagmar Sieglová, MSEd., Ph.D.
- 🗁 Ioana Kocurová Giurgiu, M.A.

#### Selected publications:

- SIEGLOVÁ, D., GIURGIU. I. Teaching the 21st Century Student: Methods and activities through critical thinking and interaction. Eva Rozkotová Publishers, 2018, ISBN 978-3-946915-22-5.
- SIEGLOVÁ, D. Cooperative Classroom: How to best prepare new generations for the 21st century practice. In Cross-Cultural Business Conference 2018 proceedings. Shaker Verlag, Germany, 2018. ISBN 978-3-8440-5875-8.

- KOCUROVÁ-GIURGIU, I. Silent teacher? Yes, you can! Encouraging cooperative learning through silence. In ELT Signposts International ATECR Conference Proceedings. Faculty of Education, Brno, 2017.
- GIURGIU, I. How we truly develop transferable skills in class?
   In 24th International IATEFL Poland Conference. Poland:
   IATEFL, 2015, p. 72. ISBN 978-83-61479-73.

#### Topic 2:

#### Foreign language teaching methods Focus:

- Methods focused on the key competencies of speaking, reading, listening and writing
- Methods for the development of study skills
- In the development of critical thinking
- In Adopting the CLIL approach to teaching

Academic personnel:

- 🖶 Mgr. Pavlína Příbramská
- 🕾 Mgr. Lenka Stejskalová, MBA
- 🗁 Mgr. Dagmar Sieglová, MSEd., Ph.D.
- 🗁 Ioana Kocurová Giurgiu, M.A.
- 🕾 PhDr. Martina Žáčková.
- Creating e-learning Aids for professional English for Bachelor's and Master's (B2 and C1) Students, Part-time and Full-time Mode of Study, for LMS Moodle. (IGA/2012/12, IGA/2012/13)
- Creating a Concept of University Education of Foreign Languages in Line with International Activities and Needs of Companies (IGA CJ/07/01)
- Concept of German Language Courses in Part-Time Study Creation of Distance Learning Aids (IGA/2012/16)

**Ad 1.** Creating e-learning Aids for professional English for Bachelor's and Master's (B2 and C1) Students, Part-time and Fulltime Mode of Study, for LMS Moodle

#### Funding: IGA ŠAVŠ Duration: 2012-2014

Research team:

for B2 (Bc.)

- 🗁 Mgr. Pavlína Příbramská
- 🗁 Mgr. Miluše Löffelmannová
- 🗇 Mgr. Marie Nováková
- 🗁 Rory Brierley, B.A.
- 🗁 Paula Gibson, M.A.

#### for C1 (Mgr.)

- 🗁 Mgr. Lenka Stejskalová
- 🗁 Mgr. Dagmar Sieglová, MSEd., Ph.D.
- 🗁 Mgr. Eva Švejdarová, Ph.D.
- 🗁 Paula Gibson, M.A.

Abstract: E-learning aids focus on developing the competences in all the key areas of foreign language learning and innovation of English language studies in Bachelor's and Master's degree programmes. The aim of both projects was to innovate the current syllabi of the C1 modules of the Master's programme and the B2 modules for the Bachelor's programme and to create new B2/C1 modules for teaching academic English in the Bachelor's programme. These modules are also closely connected to the existing specialised courses taught in English. Innovation has helped to improve the quality of learning, define learning outcomes and continue to innovate in specialised courses taught in English as such (extensive application of the CLIL method).

New modules in the Bachelor's programme and innovation in the Master's programme will be used as study materials for students, the academic community, researchers and others. They represent the mastery of specific knowledge and skills required for writing essays, expert reports, study or research articles, presentations of specialised topics, leading and moderating expert discussions, taking effective minutes of different types of meetings and working with specialised texts. A comprehensive mastery of specialised and academic language is the foundation for future success in any field.



The project: "Creating e-learning Aids for professional English for Bachelor's and Master's (B2 and C1) Students, Part-time and Fulltime Mode of Study, for LMS Moodle" E-learning aids focus on developing the competences in all key areas of foreign language learning and innovation of English language studies in Bachelor's and Master's degree Programmes. Innovation of the syllabi has helped to improve the quality of learning, define learning outcomes and continue to innovate in specialised courses taught in English as such.

Ad 2. Creating a Concept of University Education of Foreign Languages in Line with International Activities and Needs of Companies Funding: IGA ŠAVŠ Duration: 2007-2009.

Researcher:

**Abstract**: The main objective of the project was to define the requirements for language skills of students, the prospective employees, in cooperation with companies, to define the needs of students for learning materials in terms of stimulation and motivation in the process of foreign language learning. It was followed by subsequent integration of these needs into the German language programme at ŠAVŠ (creating own learning materials, adjustment of the learning programme at B2 and C1 levels). The concept of teaching German for Specific Purposes at ŠAVŠ is therefore based on both, the results of the project, and the requirements for creating curricula focusing on specialised language at non-philology higher education institutions.

Ad 3. Concept of German Language Courses in Part-Time Study – Creation of Distance Learning Aids Funding: IGA ŠAVŠ Duration: 2012-2014 Researcher:

🗇 PhDr. Martina Žáčková.

**Abstract**: The aim of this project was to create distance learning aids and the concept of learning German for Specific Purposes in the part-time mode of study as a system of blended learning, indirect/contactless or distributed learning and direct/contact full-time learning. This concept of German language learning at ŠAVŠ provided high efficiency of learning in the part-time mode of study. Other outputs of the project include distance learning aids for all modules of German for Specific Purposes at B2 and C1 levels.

#### Selected publications:

- SIEGLOVÁ, D., STEJSKALOVÁ, L., KOCUROVÁ-GIURGIU, I. (2017).
   Optimizing Language Instruction at the Tertiary Level:
   Student Needs Analysis Toward Educational change. In
   Language Learning in Higher Education. DeGruyter [online],
   413-433.
- SIEGLOVÁ, D. Applied critical thinking methods in tertiary language teaching: An automotive industry model lesson. In Opportunities and Challenges in Language Teaching and Learning, International Conference Proceedings. ŠKODA AUTO UNIVERSITY, Mladá Boleslav, 2015. ISBN 978-80-87042-60-1.
- SIEGLOVÁ, D. Critical Thinking for Language Learning and Teaching: Methods for the 21st Century. In Cross-Cultural Business Conference 2017 proceedings. Shaker Verlag, Germany, 2017, pp. 189-200. ISBN 978-3-8440-5246-6.
- ŽÁČKOVÁ, M. Jazykové vzdělávání pro konkurenceschopnost absolventů ŠAVŠ- tvorba výukových materiálů v konceptu výuky odborného německého jazyka na ŠAVŠ. In Lingua Academica 5. 1st ed. Bratislava, Slovakia: Comenius University Bratislava, 2017, pp. 129-140. ISBN 978-80-223-4362-6.

- ŽÁČKOVÁ, M. Výuka odborného předmětu INTERKULTURNÍ KOMPETENCE v německém jazyce na ŠAVŠ. In Metody výuky a testování cizích jazyků. 1st ed. Poděbrady: Charles University in Prague, Institute for Language and Preparatory Studies, 2016, pp. 216-220. ISBN 978-80-87238-12-7.
- PŘÍBRAMSKÁ, P., BRIERLEY, R. Moodle E-learning support. In Opportunities and Challenges in Language Teaching and Learning. Mladá Boleslav, Czech Republic: ŠKODA AUTO UNIVERSITY, 2015, pp. 34-41. ISBN 978-80-87042-60-1.

#### Other activities:

- Organisation of international conferences: Opportunities and Challenges in Language Teaching and Learning (2015) ŠAVŠ, Mladá Boleslav and preparation of a conference compilation
- **b.** Training:
- Teacher training programmes
  - Cooperation with the educational institute of the Central Bohemian Region
  - Courses accredited by the Ministry of Education, Youth and Sports:
    - Reading techniques and text analyses
    - Interactive teaching methods
    - Developing critical thinking skills
  - Advisory and consultancy for primary and secondary schools Central Bohemian Region
  - Workshops for academic personnel modern didactic methods
- Workshops and seminars for students of secondary and vocational schools
- Practical workshops for students

#### Topic 3:

# Diversity Management in Leadership and Marketing Communication

**Focus:** internal communication, managing diversity, adaptation and integration processes, culture shock, conflict resolution

#### Academic personnel:

- 🗁 Mgr. Dagmar Sieglová, MSEd., Ph.D.
- 🗁 Mgr. Lenka Stejskalová, MBA
- 🗁 Mgr. Pavlína Příbramská.

#### Selected publications:

- SIEGLOVÁ, D. (2019). Watch For Whom You Really Offend: Some remarks on the negative advertisement argument. In Cross-Cultural Business Conference 2017 Proceedings. Shaker Verlag, Germany. Pp. 139-148. ISBN 978-3-8440-5246-6. (submitted for peer-review, to be published 12/2019).
- SIEGLOVÁ, D. The Power of Compliments: A socio-linguistic view into social advertisement. In Marketing Science and Inspirations 7/3, 2017, pp 36-46. ISSN 1338-7944.
- SIEGLOVÁ, D. Strategy Variations in Roadside Outdoor Advertising: A Psycholinguistic Perspective of Czech, German and Bolivian Campaigns. In Marketing Science and Inspirations 11/3, 2016, pp 2-17. ISSN 1338-7944.

#### Training activities

- Diversity and Age management
- HR succession handing over job positions

#### Topic 4:

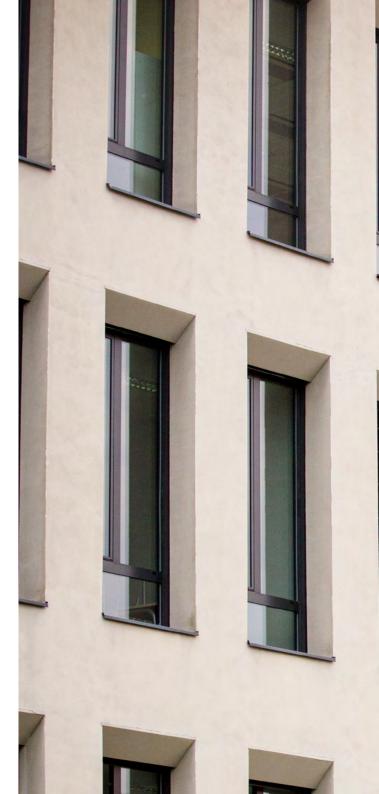
#### Language Policy and Planning in Corporate and Academic Practice

**Focus:** internal communication processes, corporate strategy, language management at micro, mezzo and macro levels, discourse analysis. Academic personnel:

- 🗁 Mgr. Pavlína Příbramská
- 🕾 Mgr. Lenka Stejskalová, MBA
- 🗇 Mgr. Dagmar Sieglová, MSEd., Ph.D.
- 🗁 PhDr. Martina Žáčková.

#### Selected publications:

SIEGLOVÁ, D., STEJSKALOVÁ, L., KOCUROVÁ-GIURGIU, I. (2017). Optimizing Language Instruction at the Tertiary Level: Student Needs Analysis Toward Educational change. In Language Learning in Higher Education. DeGruyter [online], 413-433.







# Outlook of further development of the university in terms of creative activity

ou have just finished reading a summary of the research potential and results of ŠKODA AUTO UNIVERSITY. Considering the future, the plan is to integrate the different department specialisations into a consistent whole that will cover the wide range of issues in the development and economic importance of the automotive industry. This strategy is framed by the following system of work.

One of the pillars of further progress is an annual publishing cycle of a study on the position of the automotive industry with different departments being in charge of each chapter.

Following on the above study, there is a plan to hold an international conference every 2 years where staff members will present the results of the study and external participants will present papers covering the topics of the study corresponding to the topics covered at ŠKODA AUTO UNIVERSITY. Conference papers should gradually become the first stage for future articles in specialised journals.

In addition to the publishing activities, the university aspires to be active in the field of contract research, particularly in cooperation with our partners. Naturally, the first partner in terms of contract research is ŠKODA AUTO. This research collaboration can already boast a number of interesting results. It is a strategic goal of the university to further develop this cooperation, also in the international context with other partners in the academic and corporate sector. The outline of the TACR-Delta programme in cooperation with the Fraunhofer institute seems especially suitable. Another valued partner with ongoing contract research projects is the AutoSAP association. Achieving a sufficient number of high-quality projects and publishing outputs is a prerequisite for the university to qualify as entitled to the so-called "support for conceptual development of research" from the Ministry of Education, which is the main regulatory authority and provides "labelling" in the field so as to achieve the level equivalent to major universities and institutes of the Czech Academy of Sciences. At the same time, a sufficient number of high-quality projects and publishing outputs is a necessary condition for achieving the next goal of the university, which is the accreditation and implementation of doctoral studies. Achieving this goal is planned for 2025.

## Contacts

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