

TU Graz Professor: “Smart Production Changes the World for Best”

Please imagine that of all the variety of smart phone cases you just cannot choose the one that you really like. But you do not give up and decide to make your own one. How? It's easy! You open a mobile application. You choose the model of your gadget. You indicate the material, the color or combination of colors, and then you might decide to print on it a picture of your favorite pet in the center and add a glittering strass right next to the camera. Done. The only thing to do now is to pay, and your order is sent out for production. For the “smart” production.



We have just told you about the idea of a Smart Factory or production, the scope of which is limited only by human's imagination: from souvenir production to the automobile industry. Its major feature is that instead of centralized operation, there is only one computer to control over all factory components, while production is fully automated even under the conditions of changing components; at that, the conveyor itself does not have to undergo any transformations.

This was exactly the idea which the Head of Smart Factory of the Technological University of Graz (TU Graz, Austria) professor Rudolf Pichler came with. The theme

of “smart” manufacturing in the Russian-Austrian cooperation was touched for the first time during the visit of the SPbPU delegation to Graz in May 2018. Then heads of the universities, [SPbPU Rector Academician RAS A.I. Rudskoy](#) and [TU Graz Rector Harold KAINZ](#) signed a renewed [Agreement on the Strategic Partnership](#) and approved the cooperation plan for the near future. Within only a few months, the idea of the SPbPU - TU Graz joint work on the Smart Factory got a huge progress, and professor PICHLER came to St. Petersburg already with specific suggestions and ideas.



“The world is on the threshold of the Fourth Technological Revolution which it is quite difficult to imagine without the Smart Factory idea. Quite recently, we had been only speaking about digitalization of manufacturing, and presently it is applied in all places: digital communication is used between the units for optimization of processes. This is a new generation of customized production and a unique opportunity for the research, teaching, and transfer of knowledge,” professor PICHLER is sure.

Rudolf PICHLER is striving to put into operation new ideas, bring together and implement the already existing best practices into the “smart” production. In the course of his negotiations with the Director of the Higher School of Cyber Physical Systems and Control of the Institute of Computer Science and Technology V.P. SHKODYREV, professor PICHLER had thoroughly inspected the laboratories of the Higher School and noted on the high level of training of Russian and foreign

students in the field of computer science, computer technology and management. This experience, the hi-tech equipment and well-developed cooperation of the School with the major companies of the IT industry will, in the opinion of the professor, cause favorable effect on the development of the Smart Factory at the international level.



The Laboratory of Light Materials and Constructions of the IMMET SPbPU also produced strong impression on the Austrian colleague. The Director O.V. PANCHENKO and Associate Professor A.A. NAUMOV gave a detailed tour around the laboratory. In addition, quite productive negotiations took place between professor PICHLER and Deputy Head for strategic development of "Computer Engineering Center" (CompMechLab®) Ye.V. BELOSLUDTSEV. The visit was concluded by attending the Laboratory of Laser Technologies.

Upon the end of the visit, on behalf of the international academic community Rudolf PICHLER offered Polytechnic University to join the TU Graz International Research Advisory Council on the Smart Factory. *"In the communication with SPbPU staff we have got a lot of new ideas for the further implementation of the Smart Factory and its inoculation in the educational process. This sort of experience will be extremely useful for students, teachers, and researchers of our universities, and I am sure that we have a great future ahead,"* professor PICHLER concluded.

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