

FBK's mission Russia: agreement signed with Moscow-based Skoltech

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Innovative solutions for 3D city modeling and energy are the first areas on which the Trentino based research center and the Russian university will collaborate

A **five-year agreement** between **Fondazione Bruno Kessler** and the [Skolkovo Institute of Science and Technology- Skoltech](#) was at the center of the trip to Moscow of FBK President **Francesco Profumo** who today visited the Russian institution and met its President, **Alexander Kuleshov**.

Skoltech is the young Russian university institution, based in Moscow, which in a short time has managed to consolidate its position internationally, thanks to high-level collaborations such as a three-year one with MIT.

The framework agreement signed with FBK provides for 4 main areas of collaboration: common education programs with a particular focus on strengthening the international doctoral program network ([FBK PhD International Program](#)); development of mobility programs; collaborative research in areas of common interest and the organization of joint events.

“Among the numerous internationalization activities of the Foundation, in recent months we have worked in particular on an agreement with this young, but already big Russian institution, Skoltech – commented president Francesco Profumo – The university was founded in 2011, but it has already attracted talents from many countries in the world. The model to which it refers is that of MIT and I think this is an excellent model for us too. The goal of our trip to Moscow is to meet the president and the researchers who will be working with FBK colleagues: it is a good sign that shows that the Foundation is recognized, recognizable and increasingly sought to establish new relationships”.

The framework agreement will kick off with the co-financing of two scholarships within the FBK PhD International Program to conduct joint research in two areas: innovative solutions for 3D modeling and energy.

The first area provides for the close collaboration between the [FBK 3DOM](#) Research Unit and the [Skoltech Space Center](#) specializing in research on **advanced space technologies and remote sensing**.

In the last decade, several activities have been carried out that relate to 3D city modeling and the 3D cadastre. Global knowledge of this topic is extensive, but reliable solutions that can be broadly used are still lacking.

Public administrations, urban offices and land registry agencies need new approaches to 3D data management, but the lack of technical knowledge, adequate software and powerful solutions are still a limit.

The increasing complexity of infrastructures and densely built-up areas requires proper surveying, modeling and recording procedures, which can be provided only to a limited extent by the existing 3D modeling solutions and 2D cadastral registration system as functionalities are always somewhat limited.

Starting from these considerations, the research to be conducted by FBK 3DOM and Skoltech should focus on innovative 3D modeling solutions for buildings to be used in urban planning and management, cadastral checks and other operations.

The 3D models of the buildings thus generated could be integrated with cartographic and cadastral data in order to provide new dimensions to traditional geographical and administrative data.

A second area of research is that on **Energy** and will see the direct collaboration between the Skoltech Center for Energy Systems and [FBK's ARES unit](#). The PhD topic proposed will be in this case the study of the behavior of ceramic composites for solid oxide fuel cell electrodes (SOFC – Solid Oxide Fuel Cell) for detailed investigations on the working of the technology and the improvement of energy and mechanical characteristics.

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AUTHORS

- Silvia Malesardi