QUANTUM INFORMATION NATIONAL LABORATORY

HUNGARY IN THE SECOND QUANTUM REVOLUTION

The Quantum Information National Laboratory aims to bring together national resources in physics, engineering, mathematics and computer science and to focus their activities on specific theoretical and applied areas of quantum technology. The Laboratory will maximise the role and importance of Hungary in the field of quantum computing through well thought-out and coordinated developments.

MAIN RESEARCH AREAS

- Quantum communication network
- The building blocks of quantum computing
- Quantum computation and simulation of quantum systems

CONSORTIUM LEADER:
HUN-REN Wigner Research Centre for Physics

CONSORTIUM PARTNERS:
Budapest University of Technology and Economics
Eötvös Loránd University

PROJECT NUMBER: 2022-2.1.1-NL-2022-00004

FUNDING PERIOD: 01.10.2022 - 30.09.2025

OVERALL BUDGET: 3.475.000.000 HUF

NATIONAL RESEARCH, DEVELOPMENT AND INNOVATION OFFICE
HUNGARY
PROGRAM FINANCED FROM THE NRDI FUND

BENEFITS TO BE EXPECTED FROM LABORATORY RESEARCH

- Relevance to national security: secure communication in the public sector, the banking sector and civil society.
- Quantum algorithms applied to practical problems.
- Creating a knowledge base, attracting skilled workers back to Hungary, ensuring high quality higher education.
- High level international relations.

THE PROFESSIONAL TEAM

Peter Domokos, research professor and the vice-director of the HUN-REN Wigner Research Centre, „Momentum" group leader, ordinary member of the Hungarian Academy of Sciences.

Ádám Gali, professor and scientific advisor of the HUN-REN Wigner Research Centre for Physics, „Momentum" group leader, Doctor of Science of the Hungarian Academy of Sciences.

Sándor Imre, professor and Head of Department of Networked Systems and Sevices at the Budapest University of Technology (BME), corresponding member of the Hungarian Academy of Sciences.

Gergely Zaránd professor and head of the Institute of Physics of the BME TTK, „Momentum" group leader, corresponding member of the Hungarian Academy of Sciences.

Gábor Vattay professor and head of the Department of Complex Systems Physics at Eötvös Loránd University, Doctor of the Hungarian Academy of Sciences.

Tamás Kozsik associate professor at the Faculty of Informatics of Eötvös Loránd University, dean of scientific affairs and innovation.

POSSIBLE PARTNERSHIPS

- Application demands from industry
- Joint pilot projects

TARGET GROUP

- Scientific research community (mathematics, physics, computing science, engineering)
- High tech companies (software, cybersecurity, electronics, photonics)
- Higher education

PLACE OF IMPLEMENTATION:

- Budapest

PROFESSIONAL CONTACT

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