

Grant Application

Basic data

Project registration number:

Application identification (hash): 01BnUL

Project name in CZ: Materiály a technologie pro udržitelný rozvoj

Negotiation method: Signed by one signatory

Project

Programme Number: 02

Programme name: Programme Johannes Amos Comenius

Call number: 02_22_008

Call name: Excellent Research

Project name in CZ: Materiály a technologie pro udržitelný rozvoj

Project name in EN: Materials and technologies for sustainable development

Project annotation:

The project is aimed at creating a MATUR center of excellence based on the activities of an interdisciplinary research team for 4 research work packages, combining research in the field of materials engineering for sustainable development. The activities of the center will lead to an increase in the number of cutting-edge and applicable R&D results. It is also aimed at developing the involvement of the research organisations in collaboration with top teams from around the world - by permanently involving foreign experts in the planned research and also by implementing researcher mobilities.

Physical implementation of the project

Expected start date: 01.07.2023

Expected completion date: 30.06.2028

Expected duration (in months): 60

Project income

Operating income: The project does not generate operating income

Supplementary information

Implementation of public contracts within project: Yes

State aid: No

CBA: No

Financing method: Ex-ante

Specific objectives

Programme Number: 02

Programme name: Programme Johannes Amos Comenius

Priority number: 02.01

Priority name: Research and development

Policy objective number: CP 1

Policy objective name: Smarter Europe

Number of specific objective/measure - MA format: 02.01.01

Number of specific objective/measure - EC format: 02.01.01.01.01

Name of specific objective/measure: Developing and enhancing research and innovation capacities and deploying advanced technologies

Percentage share:	100.00
Region category:	
More developed	21.00
Less developed	40.00
Transitional	39.00

Project description

Project annotation:

The project is aimed at creating a MATUR center of excellence based on the activities of an interdisciplinary research team for 4 research work packages, combining research in the field of materials engineering for sustainable development. The activities of the center will lead to an increase in the number of cutting-edge and applicable R&D results. It is also aimed at developing the involvement of the research organisations in collaboration with top teams from around the world - by permanently involving foreign experts in the planned research and also by implementing researcher mobilities.

What problem does the project solve?

The project is aimed at solving current issues in materials engineering within 4 research work packages (RWPs):

1. Hybrid silicate materials and their technological applications
2. Materials for high-temperature technologies in the energy industry
3. Materials and technologies reducing the environmental impact of used industrial products
4. Multifunctional nanostructure materials and technologies

These RWPs are described in detail in Chapter 11 of the Feasibility Study.

The project further addresses the following issues:

- Insufficient capacity and technological and material facilities for cutting-edge research
- Relatively closed research system in the Czech Republic (low involvement of foreign scientists, lower involvement in international cooperation). An environment that is not sufficiently internationalized is more prone to underdevelopment and lower potential to produce excellent R&D results (demonstrated, among other things, by the low share of the world's most cited publications).
- Lack of research cooperation with business (application sphere)

There are research teams operating in the Czech Republic and worldwide that research and develop new materials and technologies for reuse, recycling, reducing energy and raw material consumption or developing construction materials for a specific purpose - all with the aim of higher reliability, reduced energy and material consumption and extended service life. The interdisciplinary nature of research in this field requires the integration of disciplines such as civil engineering, physics, chemistry, nanomaterials, robotics, mechatronics, environmental engineering, optics and other disciplines. To research globally competitive outcomes, it is necessary to connect important workplaces in the Czech Republic and to support the development of cooperation with foreign organisations.

What are the causes of the problem?

The research theme responds to global social, economic and environmental trends - in particular the transition from a linear economy to a circular economy, the need to reduce energy and material demands, to ensure the reliability of energy and new (ecological) sources. The research aims are based on the existing (isolated) research of the involved departments and are linked to the current state of knowledge. In spite of the undeniable scientific achievements of a number of existing, mostly international, experiments, there are still many unresolved topics, especially concerning the practical application of advanced materials and technologies for sustainable development. Further research in the field is confronted with the need to address technical aspects

that require both material and human resources in complex and interdisciplinary research.

One of the reasons for the inability to attract more excellent researchers from abroad is the lack of preparedness of the conditions in the research organisation. The intention is therefore to set up processes to make the environment attractive for foreign researchers. At the same time, emphasis is also placed on international mobility, which will help the career development of researchers, their ability to formulate and implement research plans with new approaches but is also a tool for the development of international links.

One of the major weaknesses has long been the lack of cooperation between business and public research. The project activities will use the potential of research organisation towards the applicability of their research results and the long-term orientation of areas of practical use. Direct contact of the research institutes with enterprises as recipients of research results induces high innovative potential of the project.

Sources of information: The National Research and Innovation Strategy for Smart Specialization of the Czech Republic 2021-2027. Analysis of the Existing State of Research, Development and Innovation in the Czech Republic and a Comparison with the Situation Abroad, in 2020. National Research, Development and Innovation Policy of the Czech Republic 2021+. Innovation Strategy of the Czech Republic 2019–2030.

What is the goal of the project?

The aim of the Materials and Technologies for Sustainable Development project is:

- Implementation of the planned research objectives through KA2.
- The creation/development of an excellent research team, specifically by involving high quality workers (including long-term involvement of researchers from abroad) and by developing their professional competences through KA3.
- The establishment of (at least one) new international collaboration through KA4.
- Strengthening of internationalization, mainly by developing international cooperation of the research team and by preparing applications for international grant competitions through KA4.
- Purchase of instrumental and infrastructural equipment necessary for the implementation of research projects through KA5.
- The realization of mobilities leading to the internationalization of the research team through KA6.

The above objectives will be achieved by the project completion date. The measurable indicator for the achievement of the objectives is the set project indicators and other outputs of key activities.

What changes are expected due to the project?

The following positive impacts are expected as a result of the project:

- Increase in research performance of the participating research organisations, through the recruitment and involvement of excellent workers, including the involvement of researchers from abroad, and through the development of their professional competences.
- The involvement of young researchers in research activities leads to their scientific education and professional development.
- The implementation of cutting-edge and applicable research results that achieve international excellence in terms of quality and originality. These include highly cited publications, patents and other outputs.
- The cooperation of the involved departments and effective personnel, communication and infrastructure links will enable synergistic knowledge acquisition and the development of interdisciplinary approaches in materials engineering in an efficient way. This will effectively increase the capacity of the scientific research teams, support their mobility and ability to engage in more challenging scientific research projects, including the establishment of useful foreign collaborations.
- Direct contact of the research institutes with major manufacturing companies as recipients of the results will ensure the applicability of the research results into innovation practice. The cooperation activities of the scientific research base and manufacturing enterprises will be effectively complemented by the transfer of

new sectoral knowledge from other scientific research institutes. This will strengthen the relevance of solutions and expand the possibilities of applying newly obtained results. In the longer term, this will lead to increased income from the commercialization or knowledge transfer.

- Developing the internationalization of research organizations and strengthening the involvement of research teams in international projects. Increasing the competitiveness of Czech research organisations in the field of materials engineering for sustainable development.
- Open access to science results: Sharing results, making them easier to verify and minimizing duplication in research contributes to greater efficiency of scientific work and enables better response to societal needs.

What activities are going to be implemented during the project?

Mandatory activities:

KA1: Project management

KA2: Realization of cutting-edge research projects that achieve international excellence in quality and originality - the project will implement 4 research work packages in the field of materials engineering.

KA3: Capacity development of research teams

KA4: Development of internationalization

Optional activities:

KA5: Modernization and upgrade of infrastructure, acquisition of infrastructure necessary for the implementation of research work packages

KA6: Mobilities of the research team

For more information on the project's key activities, see the Key Activities tab.

Description of the project implementation team:

The core project team is made up of an administrative team and a expert team.

A. The administrative team, which is part of the main project team, consists of the following positions:

- Chief Project Manager (VŠB-TUO 1,0 FTE)
- Project Manager (VŠB-TUO 0,35 FTE, ÚFM AV ČR 0,2 FTE, VŠCHT 0,15 FTE)
- Financial Manager (VŠB-TUO 0,15 FTE, ÚFM AV ČR 0,2 FTE, VŠCHT 0,15 FTE)
- Administrative Officer (VŠB-TUO 0,4 FTE, ÚFM AV ČR 0,1 FTE)

The costs of this administrative team are reported through lump sums.

B. Expert team ensures the implementation of research work packages. It is composed of research, technical and other expert staff. The expert team is headed by an Research Project Manager. The total number of professional team members involved is 181. The positions of the expert team are divided organizationally as follows:

- Key Workers:
- Research Work Package Leader (RWP1, RWP2, RWP3 and RWP4), of which the RWP1 Leader fulfils the condition of a Junior Researcher and the RWP4 Leader is a Foreign Researcher.
- 13 x Research Activity Leaders (WP1/1, WP1/2, WP2/1, WP2/2, WP2/3, WP3/1, WP3/2, WP3/3, WP4/1, WP4/2, WP4/3, WP4/4, WP4/5. Of which one WP Leader is a Foreign Researcher.
- Excellent Researchers - Foreign
- Excellent Researchers
- Senior Researchers
- Junior Researchers and Junior Researchers - Post Doctoral Students
- PhD Students

- External Researchers (on DPP)
- Technical Staff
- Data Steward

The involvement of a researcher with an ERC grant is also proof of the high quality of the expert team.

The involvement of staff according to the departments involved, the hours of each position and the job descriptions are given in the Annex 6: Implementation team. For more information on the composition of the implementation team, see Chapters 8 and 11 of the Feasibility Study. The costs of these professional positions are included in the budget item Personnel expenses of the expert team.

Other support activities necessary for the implementation of the project, such as accounting, procurement administration, IP protection, IT support, etc., will be provided by the applicant and financial partners on a flat-rate basis.

How the dissemination of project outputs will be ensured?

Dissemination of outcomes will be in line with the project's key results:

- High-impact articles in prestigious journals listed in the Web of Science database, articles in peer-reviewed journals and/or proceedings
- presentations and posters at workshops and conferences
- development of international partnerships and cooperation through joint projects, R&D activities, participation in international conferences and other joint events
- teaching at participating university departments
- international conferences and professional workshops/seminars for the wider professional public during the project period
- workshop and conferences during the sustainability of the project
- publicity events
- presentations on the institutions' websites

What makes the proposed solution innovative?

Innovation lies in the research and development of new materials and technologies for sustainable development. Research activities are based on progressive research methods, procedures and tools. Research activities lead to the creation of scientific outputs based on the "state of art" knowledge in the field of material science and technology.

RWP1 has the ambition in the field of 3D printing of silicate materials to introduce a portfolio of silicate compounds that are suitable for additive manufacturing/3D printing. In the field of concretes using recyclates, the research will take into account the available raw material resources reflecting the use of recyclates, the appropriate formulation and validation of the technological concept with respect to granulometric, mechanical and durability properties. The novelty of concretes with self-cleaning capabilities lies in the specially designed treatment process to maximize self-cleaning capabilities.

RWP2 addresses the research of materials for the storage of electrical energy in the form of thermal energy. The electrical energy is stored in the form of high-potential heat for future use. The novelty of the research also lies in the higher efficiency of the sorption/desorption processes at relatively low temperatures and pressures compared to the current state of the art, as well as the expected higher sorption capacity than current materials.

In the RWP3 the design of progressive column equipment with multi-functional filters for the recycling and treatment of waste materials from energy storage materials (lithium batteries) will be proposed. In addition, new friction composites for automotive braking systems will be developed to reduce particle emissions, and new processes and materials for the refurbishment of automotive parts will be proposed.

RWP4 includes the research of new multifunctional nanomaterials and their applications in components and devices. This includes for example innovative spin-photonic materials for applications in the fields of spin lasers and spintronic terahertz emitters, electrophotocatalytic materials for solar energy storage devices in the form of solar fuels, smart nanocomposite ceramic and polymer multifunctional materials for applications in medicine, energy industry, and nanomaterials for use in security protection and optical imaging components.

What are the risks of the project?

The monitoring of the project's major risks is carried out during the preparation and subsequently during the project implementation process. The chief project manager together with the project managers of the partners carry out continuous monitoring of the project implementation and are responsible for the management of the risks associated with the project implementation. In addition, the research project manager and the research work package leaders are involved in risk management. Risk assessments will be carried out at regular quarterly intervals.

The expert team has analyzed the internal and external environment of the MATUR project to identify risks that may affect the submitted project. If a risk arises, measures will be taken to eliminate the risks immediately or at least to mitigate their impact on the project. The prevention of risks is ensured by the expertise of the individual members of the research teams, the experience of implementing similar research activities and the continuous communication of the partners involved.

The main risks identified can be divided into the following groups:

- Personnel risk
- Risk related to project management and administration
- Risk related to the selection of suppliers
- Financial risk
- Risk of non-fulfilment of set indicators in relation to the implementation of project results
- Change of the project based on investigations during the course of the project
- Deadline risk

Specific measures to prevent the risks and measures to eliminate their impact are provided with further details regarding the risks in Chapter 14 of the Feasibility Study.

Key words:

3D printing, silicate materials, hybrid concrete mixes, self-cleaning concrete surface, fatigue accumulation materials, hydrogen, microstructural stability

Column equipment, battery recycling, composites for braking systems, refurbishment

nanostructured materials, solar fuel cells, holography, nanocomposites

RIS3 Specific objective

Specific objective RIS3: Improving the quality and societal relevance of public research

Percent: 70,00%

Comment:

The project contributes to this specific objective by:

- Supporting research excellence and strengthening the development of research focus by using already established research infrastructures.
- Developing cooperation between the research community and the application community in order to increase the share of business spending on public research, increase revenues from the commercialization of results and make greater (and more effective) use of intellectual property tools.
- Increasing the degree of internationalization of Czech research - support for international cooperation, international mobility.
- Supporting research focused on megatrends (societal challenges and technological trends) - specifically climate change and environmental protection (circular economy, low-carbon technologies, energy), digitization, technologies for the future.

Specific objective RIS3: Increasing the potential and motivation of researchers in research organisations

Percent: 30,00%

Comment:

The project aims at engaging, retaining and motivating researchers and increasing their expertise. Specifically, the project activities will support:

- attracting and retaining high quality researchers
- professional development of researchers
- promoting the internationalization of research organizations
- supporting the mobility of researchers abroad
- increasing the motivation of young people to get involved in research

Specialization domain

- Advanced materials, technologies and systems, 89 %
- Environmentally friendly transport, 2 %
- Advanced medicine and drugs, 1 %
- Electronics and digital technologies, 8 %

R&D&I theme for domain

Specialization domain: Advanced materials, technologies and systems

R&D&I theme for domain:

- New and innovative materials and surface treatments for engineering
- Hydrogen technologies to support the decarbonization of energy and especially industry
- Energy storage with different power and capacity
- New advanced non-metallic materials for industrial and consumer applications
- More efficient separation processes
- Mechanical manufacturing technology (Machine Tools)
- Engineering equipment and technologies to reduce negative environmental impacts

Specialization domain: Environmentally friendly transport

R&D&I theme for domain:

- Low-emission mobility

Specialization domain: Advanced medicine and drugs

R&D&I theme for domain:

- Innovative products and solutions for the pharmaceutical and biotechnology industries

Specialization domain: Electronics and digital technologies

- Electronic devices and device subsystems with high added value

KET

Specialization domain: Advanced materials, technologies and systems

- KET: Advanced materials and nanotechnologies, 90 %
- KET: Advanced manufacturing technologies, 10 %

Specialization domain: Environmentally friendly transport

- KET: Advanced materials and nanotechnologies, 60,00%
- KET: Advanced manufacturing technologies, 40,00%

Specialization domain: Advanced medicine and drugs

- KET: Advanced materials and nanotechnologies, 100,00%

Specialization domain: Electronics and digital technologies

- KET: Photonics and micro-/nano-electronics, 100,00%

RIS3 mission:

Decarbonization: 60 %

Circularity: 40 %

R&D&I themes in Social Sciences and Humanities

Promoting a proactive approach to address 21st century societal and emerging technology challenges

SDI

Title: OPJAK_VaV1 Grants obtained or Seals of Excellence

Number: 0

Price/Rate: 0

Codelist: international

Text: 0

Title: OPJAK_VaV1 Grants obtained or Seals of Excellence

Number: 0

Price/Rate: 0

Codelist: national

Text: 0

Title: OPJAK_VaV1 Grants obtained or Seals of Excellence

Number: 0

Price/Rate: 0

Codelist: Seal of Excellence

Text: 0

Title: OPJAK_VaV13 Other nonpublication results

Number: 0

Codelist: Fuzit – utility model

Title: OPJAK_VaV13 Other nonpublication results

Number: 0

Codelist: Gfunk – functional sample

Title: OPJAK_VaV13 Other nonpublication results

Number: 0

Codelist: R – software

Title: OPJAK_VaV13 Other nonpublication results

Number: 0

Codelist: Ztech – tested technology

Title: OPJAK_VaV8 Patents obtained

Number: 0

Title: OPJAK_VaV6 Supported collaborations - R&D

Number: 0

Price/Rate: 0

Codelist: Research organisations, except HEIs

Text: -

Title: OPJAK_VaV6 Supported collaborations - R&D

Number: 0

Price/Rate: 0

Codelist: HEI

Text: -

Title: OPJAK_VaV6 Supported collaborations - R&D

Number: 0

Price/Rate: 0

Codelist: enterprises

Text: -

Title: OPJAK_VaV5 Persons directly affected by the ERDF intervention -
number of women

Number: 0

Title: OPJAK_VaV15 Mise Horizont Evropa a Green Deal

Codelist: Mission Horizon Europe - Adaptation to Climate Change including Societal Transformation

Text: -

Title: OPJAK_VaV12 Funds obtained from the sale of licences for the

research results of the project

Price/Rate: 0

Target group

Target group: Research organizations staff

Target group description:

The target group of the project ("TG") is researchers who create new or enhance existing knowledge, typically by managing and/or carrying out activities that involve the conception or creation of new knowledge, products, processes, methods and systems, applying scientific concepts and theories.

The project directly involves researchers from the applicant's organization, partners with and without financial contribution, as well as other organizations with which the consortium will collaborate (in the form of research collaboration in individual research projects, participation in joint events or by providing mobility).

The structure of the project's research team, an overview of the planned research positions and their level of involvement in R&D activities is given in the Annex 6 Implementation team. The project researchers are divided into the following categories: key researchers, excellent foreign researchers, excellent domestic researchers, senior researchers, junior researchers, post-doctoral researchers and technical staff.

The size of the research staff directly involved in the project is 181 persons. Women have a 32 % share in the team.

The benefits for this TG come from their participation in KA2 and KA3, where they are involved in conducting cutting-edge and interdisciplinary research in collaboration with participating Czech and international institutions. The project will support the capacity of the research teams for the 4 planned research work activities in the field of materials engineering with an emphasis on the research of new sustainable materials with low carbon footprint while maintaining optimal mechanical properties and durability. By engaging in ambitious research, professional and educational events and mobilities, the professional competences of the TG are developed.

Through the modernization and upgrading of infrastructure in KA5, the TG gains access to unique and progressive equipment to carry out its planned research activities.

Through TG mobilities - outgoings in foreign organizations, transfer of know-how to the involved research organizations and networking with experts from foreign institutions is also expected.

Target group: Students of doctoral study programmes at higher educational institutions

Target group description:

PhD students (doctoral students) are target group of the project. They are employees of the participating organisations, who are engaged in R&D activities. The number of PhD students directly involved in the project will be a minimum of 24 people.

The doctoral students are part of a professional research team in each of the 4 research divisions. By involving doctoral students, the expert team scientifically educates and professionally develops these young researchers, increases their know-how and broadens the awareness of the research topics of each team. The students get the opportunity to work in an international environment of scientists and to take their work to the level of international research in a consultancy setting.

The problems addressed and the solution procedures closely correlate with the curricula, so the acquired knowledge will be used in the teaching of PhD students in the Materials Science and Engineering program.

During the project period, seminars and workshops for students and young scientists with the participation of international collaborating leading scientists will be organized to inform about the progress of research topics.

Doctoral students will also participate in Mobilities – incomings and Mobilities – outgoings. It is expected to increase the qualifications and expertise of supported persons, transfer know-how to involved research organizations and network with experts from research organisations abroad.

Project subjects

Subject type: Applicant/beneficiary

State code: CZE - Czech Republic

Trade name/Name and surname: **Vysoká škola báňská - Technická univerzita Ostrava**

Applicant's ID/BN: 61989100

Tax number / VAT ID:

Legal form: University

Is the subject a legal person?: Yes

VAT payer type:

I am a VAT payer and am entitled to partial VAT deduction of VAT in relation to project activities

Percentage share:

Number of Employees:

Yearly turnaround (EUR):

Balance sum of the yearly balance sheet (EUR):

Enterprise size category:

Institution sector code:

Include subject into the definition of one enterprise: No

Include the entity in the definition of a family enterprise: No

Statutory representatives

Name and surname / Title: VÁCLAV SNÁŠEL

Address: [REDACTED]

Subject addresses

State code: CZE - Czech Republic

Address type: Official address

Region name: Moravia-Silesian region

District name: Ostrava-město

ORP name: Ostrava

City district: Poruba

Municipality: Ostrava

Part of the municipality: Poruba

Street: 17. listopadu

ZIP code: 708 00

Orientalional number: 15

Descriptive registry number: 2171

House number type code: 1

WWW: <https://www.vsb.cz/cs/>

Address entered by text: 17. listopadu 2172/15, Poruba, 708 00 Ostrava

Subject persons

Title before name: prof. RNDr.

Name: Václav

Last name: Snášel

Title behind name: CSc

Telephone: [REDACTED]

Mobile phone:

Email: [REDACTED]

Main contact person:

Statutory representative: Yes

Function:

Subject type: Partner with financial contribution

State code: CZE - Czech Republic

Trade name/Name and surname: Ústav fyziky materiálů AV ČR, v. v. i.

ID/BN: 68081723

Tax number / VAT ID:

Legal form: Public research institution

Is the subject a legal person?: Yes

VAT payer type: I am a VAT payer and I am not legally entitled to deduction of VAT in relation to project activities

Percentage share:

Number of Employees:

Yearly turnaround (EUR):

Balance sum of the yearly balance sheet (EUR):

Enterprise size category:

Institution sector code:

Include subject into the definition of one enterprise: No

Include the entity in the definition of a family enterprise: No

Description of the partner's involvement in the project:

The partner of the project is the Institute of Physics of Materials of the CAS, v. v. i. (hereinafter referred to as the ÚFM AV ČR), which is part of the Academy of Sciences of the Czech Republic. The mission of ÚFM AV ČR is to explain the relationship between the behavior and properties of materials and their structural and microstructural characteristics, to optimize the performance of materials and to predict their service life by theoretical and computational methods supported by experiments.

In the preparatory phase, the project partner participated in the preparation of the grant application in a similar way to the applicant. The project partner will be involved in all key project activities during the implementation phase of the project. It will be involved in addressing the research objectives in RWP1 and RWP2. The project partner will also be involved in a corresponding way in the sustainability phase of the project.

Statutory representatives

Name and surname / Title: TOMÁŠ KRUML

Address: [REDACTED]

Subject addresses

State code: CZE - Czech Republic

Address type: Official address

Region name: South-Moravian region

District name: Brno-city

ORP name: Brno

City district: Brno- center

Municipality: Brno

Part of the municipality: Veveří

Street: Žižkova

ZIP code: 616 00

Orientalional number: 22

Descriptive registry number: 513

House number type code: 1

WWW:

Address entered by text: Žižkova 513/22, Veveří, 616 00 Brno

Subject persons

Title before name: prof. Mgr.

Name: Tomáš

Last name: Kruml

Title behind name: CSc.

Telephone: [REDACTED]

Mobile phone:

Email: [REDACTED]

Main contact person:

Statutory representative: Yes

Function:

Subject type: Partner with financial contribution

State code: CZE - Czech Republic

Trade name/Name and surname: **Univerzita Palackého v Olomouci**

ID/BN: 61989592

Tax number / VAT ID:

Legal form: University

Is the subject a legal person?: Yes

VAT payer type: I am a VAT payer and am entitled to partial VAT deduction of VAT in relation to project activities

Percentage share:

Number of Employees:

Yearly turnaround (EUR):

Balance sum of the yearly balance sheet (EUR):

Enterprise size category:

Institution sector code:

Include subject into the definition of one enterprise: No

Include the entity in the definition of a family enterprise: No

Description of the partner's involvement in the project:

The partner with the financial contribution is Palacký University in Olomouc (hereinafter referred to as "UPOL"). The specific workplace involved is the Joint Laboratory of Optics, which is a joint workplace of Palacký University and the Institute of Physics of the Czech Academy of Sciences. The basis of the laboratory's activities is scientific research in the fields of applied optics, experimental particle physics, quantum and nonlinear optics, wave optics and holography. Scientists are involved in major international collaborations, including the international nuclear research center CERN, and participate in the construction and operation of the world's largest observatories in the field of astroparticle physics.

In the preparatory phase, the project partner participated in the preparation of the grant application in a similar way to the applicant. The project partner will be involved in all key project activities during the implementation phase of the project. It will be involved in addressing the research objectives in RWP2.

The project partner will also be involved in a corresponding way in the sustainability phase of the project

Statutory representatives

Name and surname / Title: MARTIN PROCHÁZKA

Address: [REDACTED]

Subject addresses

State code: CZE - Czech Republic

Address type: Official address

Region name: Olomouc region

District name: Olomouc
ORP name: Olomouc
City district: Olomouc
Municipality: Olomouc
Part of the municipality: Olomouc
Street: Křížkovského
ZIP code: 779 00
Oriental number: 8
Descriptive registry number: 511
House number type code: 1
WWW: <https://www.upol.cz/>
Address entered by text: Křížkovského 511/8, 779 00 Olomouc

Subject persons

Title before name: prof. MUDr.

Name: Martin

Last name: Procházka

Title behind name: PhD.

Telephone: [REDACTED]

Mobile phone:

Email: [REDACTED]

Main contact person:

Statutory representative: Yes

Function:

Subject type: Partner with financial contribution

State code: CZE - Czech Republic

Trade name/Name and surname: **Vysoká škola chemicko-technologická v Praze**

ID/BN: 60461373

Tax number / VAT ID:

Legal form: University

Is the subject a legal person?: Yes

VAT payer type: I am a VAT payer and I am not legally entitled to deduction of VAT in relation to project activities

Percentage share:

Number of Employees:

Yearly turnaround (EUR):

Balance sum of the yearly balance sheet (EUR): _____

Enterprise size category:

Institution sector code:

Include subject into the definition of one enterprise: No

Include the entity in the definition of a family enterprise: No

Description of the partner's involvement in the project:

The partner of the project is the University of Chemistry and Technology in Prague (hereinafter referred to as VŠCHT). The involved department is the Faculty of Chemical Technology. The Department of Inorganic Chemistry is involved in the R&D activities within RWP1 and the Department of Glass and Ceramics is involved in RWP2. One of the scientific research focuses of the faculty is chemistry and technology of materials field with a focus on solving the complex relationships between the composition, preparation and properties of new materials and on the issue of improving the performance of traditional metallic and non-metallic inorganic materials and polymers.

In the preparatory phase, the project partner participated in the preparation of the grant application in a similar way to the applicant. The project partner will be involved in all key project activities during the implementation phase of the project. It will be involved in addressing the research objectives in RWP1 and RWP2.

The project partner will also be involved in a corresponding way in the sustainability phase of the project.

Statutory representatives

Name and surname / Title: PAVEL MATĚJKA

Address: [REDACTED]

Subject addresses

State code: CZE - Czech Republic

Address type: Official address

Region name: Hlavní město Praha

District name: Hlavní město Praha

ORP name: Hlavní město Praha

City district: Praha 6

Municipality: Praha

Part of the municipality: Dejvice

Street: Technická

ZIP code: 160 00

Orientalional number: 5

Descriptive registry number: 1905

House number type code: 1

WWW: <https://www.vscht.cz/>

Address entered by text: Technická 1905/5, Dejvice, 160 00 Praha

Subject persons

Title before name: prof. Dr. RNDr.

Name: Pavel

Last name: Matějka

Title behind name:

Telephone: [REDACTED]

Mobile phone:

Email: [REDACTED]

Main contact person:

Statutory representative: Yes

Function:

Subject type: Partner without financial contribution

State code: CZE - Czech Republic

Trade name/Name and surname: **Vysoké učení technické v Brně**

ID/BN: 00216305

Tax number / VAT ID:

Legal form: University

Is the subject a legal person?: Yes

VAT payer type: I am a VAT payer and I am not legally entitled to deduction of VAT in relation to project activities

Percentage share:

Number of Employees:

Yearly turnaround (EUR):

Balance sum of the yearly balance sheet (EUR):

Enterprise size category:

Institution sector code:

Include subject into the definition of one enterprise: No

Include the entity in the definition of a family enterprise: No

Description of the partner's involvement in the project:

VUT Brno is a partner without a financial contribution, which participates in the implementation of the research activities of the project. The specific involvement is within RWP1: HYBRID SILICATE MATERIALS AND THEIR TECHNOLOGICAL APPLICATIONS, in which the Faculty of Chemistry participates. Cooperation in the research of geopolymers, cement composites and ceramic-based silicates will be further developed in this RWP. The core part of the cooperation includes the exchange of knowledge and consultations on the developed hybrid concrete mixtures and printing materials with regard to the chemical composition of admixtures and additives, workability, production and treatment technology.

Statutory representatives

Name and surname / Title: LADISLAV JANÍČEK

Address: [REDACTED]

Subject addresses

State code: CZE - Czech Republic

Address type: Official address

Region name: South-Moravian region

District name: Brno-city

ORP name: Brno

City district: Brno-center

Municipality: Brno-město

Part of the municipality: Veveří

Street: Antonínská

ZIP code: 602 00

Orientalional number: 1

Descriptive registry number: 548

House number type code: 1

WWW: <https://www.vut.cz/>

Address entered by text: Antonínská 548/1, Veveří, 602 00 Brno

Subject persons

Title before name: doc. Ing.

Name: Ladislav

Last name: Janíček

Title behind name: Ph.D., MBA

Telephone: [REDACTED]

Mobile phone:

Email: [REDACTED]

Main contact person:

Statutory representative: YES

Function:

Subject type: Partner without financial contribution

State code: CZE - Czech Republic

Trade name/Name and surname: **Vysoká škola technická a ekonomická v Českých Budějovicích**

ID/BN: 75081431

Tax number / VAT ID:

Legal form: University

Is the subject a legal person?: Yes

VAT payer type: I am a VAT payer and I am not legally

entitled to deduction of VAT in relation to project activities

Percentage share:

Number of Employees:

Yearly turnaround (EUR):

Balance sum of the yearly balance sheet (EUR):

Enterprise size category:

Institution sector code:

Include subject into the definition of one enterprise: No

Include the entity in the definition of a family enterprise: No

Description of the partner's involvement in the project:

Vysoká škola technická a ekonomická v Českých Budějovicích (VŠTE) is a partner without a financial contribution. VŠTE/Environmental and research workplace will be involved in VZ2: Materials for high-temperature technologies in the energy industry. It participates in activities related to the study of materials for the accumulation, release and transport of hydrogen. The core part of the cooperation includes the exchange of knowledge and consultations, partial research activities in the given area and participating in the publication activities of this research division.

Statutory representatives

Name and surname / Title: Vojtěch Stehel

Address: [REDACTED]

Subject addresses

State code: CZE - Czech Republic

Address type: Official address

Region name: South-Czech region

District name: České Budějovice

ORP name: České Budějovice

City district: České Budějovice

Municipality: České Budějovice

Part of the municipality: České Budějovice 4

Street: Okružní

ZIP code: 370 01

Orientalional number: 10

Descriptive registry number: 517

House number type code: 1

WWW: <https://www.vstecb.cz/>

Address entered by text: Okružní 517/10, České Budějovice, 370 01

Subject persons

Title before name: doc. Ing.

Name: Vojtěch

Last name: Stehel

Title behind name: MBA

Telephone: [REDACTED]

Mobile phone:

Email: [REDACTED]

Main contact person:

Statutory representative: YES

Function:

List of project areas of expertise and disciplines

- **OPJAK_1P_2P_9.10 Other materials**
- OPJAK_1P_2P_3.9 Industrial chemistry and chemical engineering
- OPJAK_1P_2P_9.12 Fatigue and fracture mechanics
- OPJAK_1P_2P_9.13 Civil engineering
- OPJAK_1P_2P_9.16 Industrial processes and processing
- OPJAK_1P_2P_9.5 Non-nuclear energy, energy consumption and use
- OPJAK_1P_2P_9.8 Ceramics, refractory materials and glass
- OPJAK_1P_2P_9.9 Composite materials

Place of implementation

CZ010 Hlavní město Praha (Prague)

CZ064 Jihomoravský kraj (South – Moravian region)

CZ071 Olomoucký kraj (Olomouc region)

CZ080 Moravskoslezský kraj (Moravian – Silesian region)

CZ031 Jihočeský kraj (South – Czech region)

Implementation outside the Czech Republic

Site of implementation outside CR:

Key activities

Key activity name:

KA1: Project Management

Key activity description:

The main objectives of KA1 are:

- Apply an effective decision-making structure to ensure the smooth functioning of the project
 - To complement the other KAs with effective project management
 - Ensure effective financial, administrative and time management of the project
-

- Ensure effective integration, management and completion of the individual KAs

As the project applicant, VŠB-TUO will provide and be responsible for the overall project management and its administrative activities, in close cooperation with the other partners involved. These activities are in particular:

- Coordination of working procedures; ensuring contractual and legal basis of project activities.
- Preparation, organization of project meetings
- Maintaining regular communication with the project's expert team, partner organizations and other involved parties
- Implementing evaluation mechanisms to assess the success of the project and its defined deliverables
- Financial management
- Project risk management
- Intellectual property (IP) management
- Ensuring open science practices in accordance with the Data Management Plan

The implementation of KA1 is carried out by the administrative team, which is part of the main project team, in the embedding:

- Chief Project Manager
- Project Manager
- Project Finance Manager
- Administrative Officer

The quality of the research carried out will be monitored and evaluated through the International Scientific Advisory Board (ISAB).

For the administrative team's job descriptions, the size of the time commitment and involvement by organization - see the Implementation team attachment. Project management arrangements - see chap. 8 of the Feasibility Study.

In addition, a project support team (funded by flat-rate costs) is involved in the implementation of KA1. These are positions of accountant, HR, lawyer, IT support, IP specialist, etc.

Duration of KA: M1-M60. The subactivities and milestones of the KA - see attachment: Gantt chart.

KA outputs:

- Project implementation reports
- Payment requests
- Updated Data Management Plan
- Project team minutes

Costs overview:

Overview of costs (budget chapters):

1.1.1.2.1 Lump sums – administrative team

1.1.2 Flat-rate costs

1.1.1.1.2.4.1.3.5 Remuneration for ISAB members

1.1.1.1.2.6.1.4 Foreign business trips - member of ISAB

Comment on costs - see Annex 4 Comment on the budget.

Key activity name:

KA2: Implementation of top-level research projects that achieve international excellence through quality and originality

Key activity description:

The aim of the activity is the implementation of 4 interdisciplinary research work packages, which have the potential to create cutting-edge and future applicable research results. The RWPs are aimed at addressing highly relevant topics in materials engineering, thematically divided into:

1. Hybrid silicate materials and their technological applications
2. Materials for high-temperature technologies in the energy industry
3. Materials and technologies reducing the environmental impact of used industrial products
4. Multifunctional nanostructure materials and technologies

These RWPs are described in detail in Chapter 11 of the Feasibility Study.

The implementation of the KAs involves the applicant's departments, partners with a financial contribution, partners without a financial contribution and also collaborating foreign research organisations. The participating sites will share expertise, instrumentation and laboratories for the purpose of collaborative research and excellent results. The consortium will also collaborate with the application sector (selected enterprises) to ensure the applicability of research outputs.

Research data management is coordinated by the Data Steward.

Duration of KA: M1-M60. The sub-activities and milestones of the KA - see attachment: Gantt chart.

Planned results/indicators:

- Research organizations supported: 4
- Institutions affected by the intervention: 6
- Number of supported R&D cooperations (Czech): 4
- Publications: 175
- Publications - letter, review, conference/proceedings paper: 84
- Publications published in the first quartile of the most influential journals in the field: 103
- Publications in the first quartile of publications according to the industry-standard citation rate: 83
- Publications co-authored by research organizations and business corporation: 65
- Other non-publication results: 29
- Patent applications: 8

Costs overview:

Overview of costs (budget chapters):

1.1.1.1.2.1.2 Material

1.1.2.6 Purchase of services: items 1.1.1.1.2.7.01 to 1.1.1.1.2.7.13 from chap. Purchase of services

Comment on costs - see Annex 4 Comment on the budget.

Key activity name:

KA 3: Capacity development of expert teams

Key activity description:

The aim of the KA is to increase the research performance of the involved departments through the development of the capacity of research teams, the acquisition and permanent involvement of quality personnel, including the long-term involvement of researchers from abroad, and the development of their professional competences.

Within the framework of the KA, an interdisciplinary research team will be created consisting of 149 workers from VŠB-TUO, 20 workers from ÚFM AV ČR, 11 from VŠCHT and 1 from UPOL. Women have a 32 % share in the team. The team will focus on 4 research themes (described in KA2) in the field of materials engineering. The structure of the project's research team and an overview of the planned research positions – see Annex 6 Implementation team. During the implementation of the project, the research team will be stabilized with a capacity of approx. 57 FTE/year (55 FTE in 1. Year).

An indicator of the high quality of the team is the involvement of 28 excellent researchers (workers) whose expertise, publication and application results are listed in the attached CV (Annex 8). The project will be led by the [REDACTED] [REDACTED] who will ensure the scientific, research and technological integrity of the project. Research work packages (RWP) and work packages (WP) will be coordinated by 17 leaders, also referred to as key researchers.

In addition, senior researchers from VSB-TUO and participating partners in the project are involved. Experienced scientists are joined by high quality junior scientists to ensure the transfer of knowledge and experience. The technical staff is responsible for the professional operation and functioning of the research infrastructure. The expert team is balanced in order to achieve the project objectives, to transfer experience between scientists and departments and to support the long-term potential of the staff involved.

The KA includes the development of the professional competences of the researchers in the form of trainings and similar activities with a direct link to the project objectives. For an overview of the planned trainings, see Chapter 11.1.8 of the Feasibility Study.

Duration of KA: M1-M60. The subactivities and milestones of the KA - see attachment: Gantt chart.

Planned results/indicators:

- Researchers working in the supported research workplaces: 55 FTE
- Number of people directly affected by ERDF interventions: 181
- Trainings, workshops and similar educational activities for expert team: min. 22 partial training activities

Costs overview:

Overview of costs (budget chapters):

1.1.2.1 Personnel expenditure – expert team (except 1.1.1.1.2.4.1.3.5)

1.1.1.1.2.4.2 Social security contributions

1.1.1.1.2.4.3 Health insurance contributions

1.1.1.1.2.4.4 FKSP from personnel expenditure of part of the team

1.1.1.4 Reserve for personnel expenditure

1.1.2.6 Purchase of services: item 1.1.1.1.2.7.13

Comment on costs - see Annex 4 Comment on the budget.

Key activity name:

KA4: Development of internationalisation

Key activity description:

The aim of the KA is to support the development and establishment of new international collaborations of research teams, including support for the preparation of applications for international grant competitions.

Building on existing links with foreign R&D institutions, an international network of institutions (various European countries, Japan, UK, Turkey, USA and Canada) in the given field will develop during the realization of the project, synergistically using R&D infrastructure, publishing joint results, implementing joint R&D projects and regular exchange of staff and students. The establishment of cooperation will be declared e.g. by a Memorandum of Understanding (hereinafter referred to as "MoU") or other contractual relationship. Some of the long-term cooperating foreign institutions expressed their interest in joining the MATUR project in the project preparation phase already - see Annex 23 – MoU.

At least one new international cooperation will be established within the project - namely with Tokyo Institute of Technology.

In cooperation with foreign partners, the consortium will implement international events (workshops and conferences) to present research results and achievements of the project and to deepen international ties. Researchers of the expert team will also participate in professional international events (conferences or workshops) related to the planned research topics.

Applications for support to international grant competitions relevant to the project will be prepared within the framework of the KA.

Further information on the development of internationalization, an overview of specific international collaborations and international grant competitions is provided in Chapter 12 of the Feasibility Study.

Duration of KA: M4-M60. The subactivities and milestones - see attachment: Gantt chart.

Planned results/indicators:

Number of supported R&D cooperations (international): 26

Presentations at expert events: 145

Submitted grants – international: 15

Submitted grants - national: 44

Publications (selected document types) with foreign co-authorship produced by supported entities:103

International conferences, workshops: 9 planned international events (4 workshops, 3 conferences, 2 seminars for Ph.D. students)

Costs overview:

Overview of costs (budget chapters):

1.1.1.1.2.6 Travel expenses:

1.1.1.1.2.6.1.1, 1.1.1.1.2.6.1.5 Foreign business trips - foreign workplaces

1.1.1.1.2.6.1.2, 1.1.1.1.2.6.1.3, 1.1.1.1.2.6.1.6 Foreign business trips - foreign conference (inc. conference fee)

1.1.1.1.2.6.1.7 Foreign business trips – incoming experts

1.1.1.1.2.6.2.1, 1.1.1.1.2.6.2.2 Per diem

1.1.2.6 Purchase of services: 1.1.1.1.2.7.14

Comment on costs - see Annex 4 Comment on the budget.

Key activity name:

KA 5: Modernization and upgrade of infrastructure, purchase of infrastructure necessary for the implementation of research work packages

Key activity description:

The aim of the KA (following the supported Activity 2) is providing a material and technical base for the functioning of the supported expert teams of the project and the supported research work packages, thus contributing to the creation of knowledge that has the potential to produce applicable results and to the competitiveness of the team on an international scale.

In the course of the project implementation, R&D infrastructure necessary for the implementation of the project objectives and research plans will be acquired and put into operation in relation to the existing equipment of the involved departments. A more detailed description of the infrastructure to be acquired is given in Chapter 11.1.9.2 of the Feasibility Study.

The project does not include building modifications or reconstructions.

The equipment and technology included in the project budget will be acquired in 3 phases - see Gantt diagram. The first phase in the first year of implementation represents the acquisition of the better part of the technology in the shortest possible timeframe so that full project work can begin promptly. The second and third procurement phases follow up on the outputs of the research activities in RWP3 (column devices and braking systems) and RWP1 (technologies and parts for 3D printing). The schedule of the relevant tenders is given in the Annex 10: Overview of public contracts.

Duration of KA: M1-M36. The subactivities and milestones of the KA - see attachment: Gantt chart.

Planned results/indicators:

- Number of modernized R&D departments: 3 (VŠB-TUO, VŠCHT, ÚFM AV)

Costs overview:

Overview of costs (budget chapters):

1.1.1.1.1.1.2 Movables

1.1.1.1.1.2 Intangible fixed assets

1.1.1.1.2.1.1 Small tangible assets

Comment on costs - see Annex 4 Comment on the budget.

Key activity name:

KA 6: Mobilities of the expert team

Key activity description:

The aim of the KA is to international collaborate on research work packages implemented within the project, share experiences and establish relationships with foreign institutions through mobilities.

Mobilities are divided into:

- Mobilities of the expert team - incomings
- Mobilities of the expert team - outgoing

Mobilities of the expert team - outgoing are carried out by members of the expert team (except the research project manager and research team leaders) involved in the project, both in EU and non-EU countries. These researchers are dispatched on individual foreign assignments in research organizations currently collaborating with the consortium or on the basis of newly established collaborations. The researchers will be selected in a transparent selection procedure according to well-specified criteria and who will best fulfil the objectives and expected contribution of each mobility, in accordance with the description of the individual RWPs.

For the mobility – outgoing (visits to the Czech Republic), the target group is staff of foreign research organizations selected on the basis of existing or newly established cooperation. The staff will be selected through a transparent selection procedure and will be assigned to research teams that have identified the need for individual mobility and the benefit for research activities at the given department in the individual project RWPs.

The indicative mobility plan and the justification of the need for mobility is described in Chapter 13 of the Feasibility Study. An attachment to the application for support is the Mobilities Calculator (Annex 5), which provides more detailed information - i.e. destination, duration of mobility, amount of time commitment and calculates the total cost of mobilities.

Duration of the KA: M1-M60. The subactivities and milestones of the KA - see attachment: Gantt chart.

Planned results/indicators:

- Incoming mobilities: 17
- Outgoing mobilities: 41
- Number of persons directly affected by the ERDF intervention: 17 (researchers from outgoing mobilities)

Costs overview:

Overview of costs (budget chapters):

1.1.1.3.2 Unit costs of mobilities – incoming

1.1.1.3.3 Unit costs of mobilities - outgoing

Comment on costs - see Annex 4 Comment on the budget.

Unit budget

Code	Project	Unit price	Number of units	Total amount	%
1	Total expenditure			486 500 000 CZK	100,00
1.1	Total eligible expenditure			486 500 000 CZK	100
1.1.1	Expenditure forming the basis for calculating flat-rate costs			454 672 897,1 CZK	93,46
1.1.1.1	Direct expenditure			423 193 540,9 CZK	86,99
1.1.1.1.1	Investment expenditure			75 537 985 CZK	15,53
1.1.1.1.1.1	Tangible fixed assets			68 998 874 CZK	14,18
1.1.1.1.1.1.1	Buildings and construction			0 CZK	0
1.1.1.1.1.1.2	Movables			68 998 874 CZK	14,18
1.1.1.1.1.1.2.1	Servo-hydraulic testing machine 25-30kN_ÚFM	5 308 875 CZK	1	5 308 875 CZK	1,09
1.1.1.1.1.1.2.2	Helium pycnometer_RWP1_VŠB	450 320 CZK	1	450 320 CZK	0,09
1.1.1.1.1.1.2.3	Benchtop SEM_RWP2_VŠB	2 891 200 CZK	1	2 891 200 CZK	0,59
1.1.1.1.1.1.2.4	Thermogravimeter with mass spectrometer_ÚFM	2 712 381 CZK	1	2 712 381 CZK	0,56
1.1.1.1.1.1.2.5	Rotary pump-assisted sputtering machine for RWP1_VŠCHT	660 000 CZK	1	660 000 CZK	0,14
1.1.1.1.1.1.2.6	Laser granulometer - building materials_RWP1_VŠB	1 508 940 CZK	1	1 508 940 CZK	0,31
1.1.1.1.1.1.2.7	3D DIC system_RWP1_VŠB	956 933 CZK	1	956 933 CZK	0,2
1.1.1.1.1.1.2.8	Digital microscope_RWP1_VŠB	4 620 500 CZK	1	4 620 500 CZK	0,95
1.1.1.1.1.1.2.9	3D pre-printer_FAST_RWP1_VŠB	1 568 320 CZK	1	1 568 320 CZK	0,32
1.1.1.1.1.1.2.10	High temperature furnace_RWP1_VŠB	442 000 CZK	1	442 000 CZK	0,09
1.1.1.1.1.1.2.11	C, H, N, S analyzer_RWP1_VŠB	2 554 967 CZK	1	2 554 967 CZK	0,53
1.1.1.1.1.1.2.12	Dynamic shear rheometer_RWP1_VŠB	1 512 913 CZK	1	1 512 913 CZK	0,31
1.1.1.1.1.1.2.13	H2 application set_RWP2_VŠB	939 221 CZK	1	939 221 CZK	0,19
1.1.1.1.1.1.2.14	HYCO (Device for controlled H2 generation)_RWP2_VŠB	1 618 095 CZK	1	1 618 095 CZK	0,33
1.1.1.1.1.1.2.15	MTPS, TPS and TLS thermal property measurement equipment_RWP2_VŠB	3 061 500 CZK	1	3 061 500 CZK	0,63
1.1.1.1.1.1.2.16	Device upgrade for thermal analysis_RWP2_VŠB	794 747 CZK	1	794 747 CZK	0,16
1.1.1.1.1.1.2.17	3D Sensors for Sensys with furnace for H2 chemisorption analysis_RWP2_VŠB	1 573 520 CZK	1	1 573 520 CZK	0,32
1.1.1.1.1.1.2.18	Analytical balance_RWP2_VŠB	62 200 CZK	2	124 400 CZK	0,03
1.1.1.1.1.1.2.19	GC+injector_RWP2_VŠB	3 998 800 CZK	1	3 998 800 CZK	0,82
1.1.1.1.1.1.2.20	Equipment for rapid thermal conductivity measurement_RWP2_VŠB	236 210 CZK	1	236 210 CZK	0,05
1.1.1.1.1.1.2.21	Heating microscope with optical dilatometer_RWP2_VŠB	3 356 818 CZK	1	3 356 818 CZK	0,69
1.1.1.1.1.1.2.22	Sample plating equipment_RWP2_VŠB	552 864 CZK	1	552 864 CZK	0,11
1.1.1.1.1.1.2.23	Optical active thermography light source module_RWP2_VŠB	362 934 CZK	1	362 934 CZK	0,07
1.1.1.1.1.1.2.24	Radiometer_RWP2_VŠB	112 875 CZK	1	112 875 CZK	0,02
1.1.1.1.1.1.2.25	Device for assessing the stability of materials under thermal stress_RWP2_VŠB	1 518 400 CZK	1	1 518 400 CZK	0,31
1.1.1.1.1.1.2.26	Professional digital camera with lens for macro image acquisition_RWP2_VŠB	267 912 CZK	1	267 912 CZK	0,06
1.1.1.1.1.1.2.27	Measuring column_RWP3_VŠB	700 000 CZK	1	700 000 CZK	0,14
1.1.1.1.1.1.2.28	Column and filter optimization_RWP3_VŠB	800 000 CZK	1	800 000 CZK	0,16
1.1.1.1.1.1.2.29	Jet mill_RWP3_VŠB	3 187 500 CZK	1	3 187 500 CZK	0,66
1.1.1.1.1.1.2.30	Acoustic impedance tube_RWP3_VŠB	1 187 680 CZK	1	1 187 680 CZK	0,24
1.1.1.1.1.1.2.31	Controlled atmosphere muffle furnace_RWP3_VŠB	240 926 CZK	1	240 926 CZK	0,05
1.1.1.1.1.1.2.32	Assembly for measuring particulate emissions from brakes_RWP3_VŠB	3 952 000 CZK	1	3 952 000 CZK	0,81
1.1.1.1.1.1.2.33	Laser oscillator including accessories_RWP4_VŠB	5 200 000 CZK	1	5 200 000 CZK	1,07
1.1.1.1.1.1.2.34	High performance computer_RWP1_VŠB	90 400 CZK	3	271 200 CZK	0,06
1.1.1.1.1.1.2.35	Robot for 6D printing_RWP1_VŠB	939 000 CZK	1	939 000 CZK	0,19
1.1.1.1.1.1.2.36	Control during printing - local control_RWP1_VŠB	427 388 CZK	1	427 388 CZK	0,09
1.1.1.1.1.1.2.37	3D pre-printer_FMT_RWP1_VŠB	1 112 883 CZK	1	1 112 883 CZK	0,23
1.1.1.1.1.1.2.38	Robot refinement - laser tracker_RWP1_VŠB	2 018 900 CZK	1	2 018 900 CZK	0,41
1.1.1.1.1.1.2.39	Control during printing - global control_VZ1_VŠB	1 080 300 CZK	1	1 080 300 CZK	0,22
1.1.1.1.1.1.2.40	3D scanning system for printed elements control_RWP1_VŠB	2 418 000 CZK	1	2 418 000 CZK	0,5
1.1.1.1.1.1.2.41	Sensor system for print control_RWP1_VŠB	699 400 CZK	1	699 400 CZK	0,14
1.1.1.1.1.1.2.42	Zone sensor and light barrier_RWP1_VŠB	559 052 CZK	1	559 052 CZK	0,11
1.1.1.1.1.1.2.43	Robotic arm base_RWP1_VŠB	499 000 CZK	1	499 000 CZK	0,1
1.1.1.1.1.2	Intangible fixed assets			6 539 111 CZK	1,34
1.1.1.1.1.2.1	MyVGL software_ÚFM_RWP1	514 755 CZK	1	514 755 CZK	0,11
1.1.1.1.1.2.2	ThermoCalc SW (database extension)_ÚFM_RWP2	887 768 CZK	1	887 768 CZK	0,18
1.1.1.1.1.2.3	SW for CAE technology operation_RWP1_VŠB	524 000 CZK	1	524 000 CZK	0,11
1.1.1.1.1.2.4	Kinetics Neo SW (upgrade)_RWP2_VŠB	170 352 CZK	1	170 352 CZK	0,04
1.1.1.1.1.2.5	ThermoCalc software (update, database extension)_VŠB_RWP2	1 542 372 CZK	1	1 542 372 CZK	0,32
1.1.1.1.1.2.6	Libraries for LCA software_RWP3_VŠB	774 150 CZK	1	774 150 CZK	0,16

1.1.1.1.1.2.7	Software – electron microscope_RWP4_VŠB	1 324 700 CZK	1	1 324 700 CZK	0,27
1.1.1.1.1.2.8	CAD license_RWP1_VŠB	673 614 CZK	1	673 614 CZK	0,14
1.1.1.1.1.2.9	3D printing control software_RWP1_VŠB	127 400 CZK	1	127 400 CZK	0,03
1.1.1.1.2	Non-investment expenditure			347 655 555,9 CZK	71,46
1.1.1.1.2.1	Tangible assets			16 210 478 CZK	3,33
1.1.1.1.2.1.1	Small tangible assets			2 303 924 CZK	0,47
1.1.1.1.2.1.1.1	PC_ÚFM	27 016 CZK	3	81 048 CZK	0,02
1.1.1.1.2.1.1.2	Notebook_ÚFM	25 610 CZK	3	76 830 CZK	0,02
1.1.1.1.2.1.1.3	Computing PC_ÚFM	79 345 CZK	1	79 345 CZK	0,02
1.1.1.1.2.1.1.4	Printer_ÚFM	50 715 CZK	1	50 715 CZK	0,01
1.1.1.1.2.1.1.5	Docking station_ÚFM	5 218 CZK	3	15 654 CZK	0
1.1.1.1.2.1.1.6	Monitor_ÚFM	5 622 CZK	6	33 732 CZK	0,01
1.1.1.1.2.1.1.7	Components for assembling the frame structure of the 3D printer_RWP1_VŠB	1 275 000 CZK	1	1 275 000 CZK	0,26
1.1.1.1.2.1.1.8	Laboratory equipment for Thermal Analysis Laboratory_RWP2_VŠB	691 600 CZK	1	691 600 CZK	0,14
1.1.1.1.2.1.2	Material			13 906 554 CZK	2,86
1.1.1.1.2.1.2.1	Structural material for modifying the production of auxiliary laboratory components_ÚFM	10 000 CZK	5	50 000 CZK	0,01
1.1.1.1.2.1.2.2	Precision measuring instruments and other small equipment and tools for laboratories_ÚFM	25 000 CZK	5	125 000 CZK	0,03
1.1.1.1.2.1.2.3	Electrical material for modifying the production of auxiliary laboratory components_ÚFM	10 000 CZK	5	50 000 CZK	0,01
1.1.1.1.2.1.2.4	Filter papers and filters for laboratory equipment_ÚFM	2 500 CZK	5	12 500 CZK	0
1.1.1.1.2.1.2.5	Consumable laboratory material for the preparation of test samples and material for electron microscopy_ÚFM	25 000 CZK	5	125 000 CZK	0,03
1.1.1.1.2.1.2.6	Technical gases and chemicals_ÚFM	15 000 CZK	5	75 000 CZK	0,02
1.1.1.1.2.1.2.7	Laboratory protective equipment_ÚFM	5 000 CZK	5	25 000 CZK	0,01
1.1.1.1.2.1.2.8	Simple laser/contact sensors_ÚFM	20 000 CZK	5	100 000 CZK	0,02
1.1.1.1.2.1.2.9	Oils for hydraulic testing machines_ÚFM	30 000 CZK	5	150 000 CZK	0,03
1.1.1.1.2.1.2.10	VŠCHT Material equipment for RWP2	599 954 CZK	1	599 954 CZK	0,12
1.1.1.1.2.1.2.11	VŠCHT Material equipment for RWP1	935 000 CZK	1	935 000 CZK	0,19
1.1.1.1.2.1.2.12	UPOL material for RWP2	80 000 CZK	1	80 000 CZK	0,02
1.1.1.1.2.1.2.13	Material for tests and consumables_RWP1_VŠB	50 000 CZK	9	450 000 CZK	0,09
1.1.1.1.2.1.2.14	Laboratory glassware and other material_RWP1_VŠB	30 000 CZK	5	150 000 CZK	0,03
1.1.1.1.2.1.2.15	Chemicals and raw materials for RWP1_VŠB	30 000 CZK	5	150 000 CZK	0,03
1.1.1.1.2.1.2.16	Material and components for printing parts positioner_RWP1_VŠB	450 000 CZK	1	450 000 CZK	0,09
1.1.1.1.2.1.2.17	Drives and components for printheads_RWP1_VŠB	196 000 CZK	1	196 000 CZK	0,04
1.1.1.1.2.1.2.18	Material and components for rotary table for quality control of printed parts_RWP1_VŠB	450 000 CZK	1	450 000 CZK	0,09
1.1.1.1.2.1.2.19	Material for components of the transfer path (3D printers)_RWP1_VŠB	850 000 CZK	1	850 000 CZK	0,17
1.1.1.1.2.1.2.20	Material for molding elements and extruders (3D printer)_RWP1_VŠB	485 000 CZK	1	485 000 CZK	0,1
1.1.1.1.2.1.2.21	Material for the operation of analyzers and calorimeters_RWP2_VŠB	728 000 CZK	1	728 000 CZK	0,15
1.1.1.1.2.1.2.22	Pure metals for alloy preparation_RWP2_VŠB	208 000 CZK	1	208 000 CZK	0,04
1.1.1.1.2.1.2.23	Technical gases RWP2_VŠB	416 000 CZK	1	416 000 CZK	0,09
1.1.1.1.2.1.2.24	Material for the operation of the Thermal Analysis and Consumables Laboratory_RWP2_VŠB	925 600 CZK	1	925 600 CZK	0,19
1.1.1.1.2.1.2.25	Material for preparation of sorbents_RWP3_VŠB	400 000 CZK	1	400 000 CZK	0,08
1.1.1.1.2.1.2.26	Consumables for particle collection_RWP3_VŠB	200 000 CZK	5	1 000 000 CZK	0,21
1.1.1.1.2.1.2.27	Laboratory consumables for RWP4_VŠB	1 650 500 CZK	1	1 650 500 CZK	0,34
1.1.1.1.2.1.2.28	Optomechanical material for RWP4_VŠB	1 260 000 CZK	1	1 260 000 CZK	0,26
1.1.1.1.2.1.2.29	Sample preparation material for RWP4_VŠB	1 010 000 CZK	1	1 010 000 CZK	0,21
1.1.1.1.2.1.2.30	Laboratory glassware and chemical laboratory material for RWP4_VŠB	800 000 CZK	1	800 000 CZK	0,16
1.1.1.1.2.2	Intangible assets	0 CZK	0	0 CZK	0
1.1.1.1.2.3	Depreciation	0 CZK	0	0 CZK	0
1.1.1.1.2.4	Personnel expenditure – expert team			304 879 174,9 CZK	62,67
1.1.1.1.2.4.1	Wages, salaries or remuneration from the agreements			229 064 715,0 CZK	47,08
1.1.1.1.2.4.1.1	Wages, salaries			222 396 615,0 CZK	45,71
1.1.1.1.2.4.1.1.1	Research project manager	120 000 CZK	36	4 320 000 CZK	0,89
1.1.1.1.2.4.1.1.2	Data Steward	40 100 CZK	6	240 600 CZK	0,05
1.1.1.1.2.4.1.1.3	Leader RWP1_ÚFM	100000	36	3 600 000 CZK	0,74
1.1.1.1.2.4.1.1.4	Leader RWP2-4_VŠB	95 000 CZK	66	6 270 000 CZK	1,29
1.1.1.1.2.4.1.1.5	Leader WP_VŠCHT	105500	13,5	1 424 250 CZK	0,29
1.1.1.1.2.4.1.1.6	Leader WP_VŠB	85 000 CZK	219	18 615 000 CZK	3,83
1.1.1.1.2.4.1.1.7	Excellent researcher I_ÚFM	110 000 CZK	66	7 260 000 CZK	1,49

1.1.1.1.2.4.1.1.8	Excellent researcher II_ ÚFM	80 000 CZK	84	6 720 000 CZK	1,38
1.1.1.1.2.4.1.1.9	Excellent researcher_ UPOL	85 000 CZK	12	1 020 000 CZK	0,21
1.1.1.1.2.4.1.1.10	Excellent researcher foreign_ VŠB	140 000 CZK	131	18 396 000 CZK	3,78
1.1.1.1.2.4.1.1.11	Excellent researcher_ VŠB	85 000 CZK	114	9 690 000 CZK	1,99
1.1.1.1.2.4.1.1.12	Excellent researcher VZ2_ VŠCHT	55 167 CZK	11	595 804 CZK	0,12
1.1.1.1.2.4.1.1.13	Senior researcher_ ÚFM	60 000 CZK	48	2 880 000 CZK	0,59
1.1.1.1.2.4.1.1.14	Senior researcher I_ VŠCHT	77 728 CZK	11	839 462 CZK	0,17
1.1.1.1.2.4.1.1.15	Senior researcherII_ VŠCHT	48 917 CZK	27	1 320 750 CZK	0,27
1.1.1.1.2.4.1.1.16	Senior researcher I_ VŠB	77 000 CZK	306	23 562 000 CZK	4,84
1.1.1.1.2.4.1.1.17	Senior researcher II_ VŠB	76 000 CZK	255	19 380 000 CZK	3,98
1.1.1.1.2.4.1.1.18	Senior researcher III_ VŠB	72 000 CZK	18	1 296 000 CZK	0,27
1.1.1.1.2.4.1.1.19	Senior researcher IV_ VŠB	60 000 CZK	180	10 800 000 CZK	2,22
1.1.1.1.2.4.1.1.20	Junior researcher - Postdoctorand_ ÚFM	52 000 CZK	54	2 808 000 CZK	0,58
1.1.1.1.2.4.1.1.21	Junior researcher_ VŠCHT	54 287 CZK	27	1 465 749 CZK	0,3
1.1.1.1.2.4.1.1.22	Junior researcher - Postdoctorand_ VŠCHT	32 500 CZK	32	1 053 000 CZK	0,22
1.1.1.1.2.4.1.1.23	Junior researcher_ VŠB	56 000 CZK	984	55 104 000 CZK	11,33
1.1.1.1.2.4.1.1.24	Ph.D. student_ ÚFM	32 000 CZK	120	3 840 000 CZK	0,79
1.1.1.1.2.4.1.1.25	Ph.D. student_ VŠCHT	32 500 CZK	43	1 404 000 CZK	0,29
1.1.1.1.2.4.1.1.26	Ph.D. student_ VŠB	45 000 CZK	234	10 530 000 CZK	2,16
1.1.1.1.2.4.1.1.27	Technical staff_ ÚFM	42 000 CZK	36	1 512 000 CZK	0,31
1.1.1.1.2.4.1.1.28	Technical staff_ VŠB	50 000 CZK	129	6 450 000 CZK	1,33
1.1.1.1.2.4.1.2	Contract for Work (CfW, Agreement to perform work)			0 CZK	0
1.1.1.1.2.4.1.3	Contract of Services (CoS, Agreement to complete a job)			6 668 100 CZK	0,03
1.1.1.1.2.4.1.3.1	Student CoS_ ÚFM	400 CZK	350	140 000 CZK	0,27
1.1.1.1.2.4.1.3.2	Student CoS_ VŠCHT	326 CZK	4050	1 320 300 CZK	0,44
1.1.1.1.2.4.1.3.3	Senior researcher_ CoS_ VŠB	450 CZK	4734	2 130 300 CZK	0,36
1.1.1.1.2.4.1.3.4	Student CoS_ VŠB	250 CZK	6910	1 727 500 CZK	0,28
1.1.1.1.2.4.1.3.5	Remuneration for ISAB members	1 000 CZK	1350	1 350 000 CZK	11,34
1.1.1.1.2.4.2	Social security contributions			55 189 080,5 CZK	11,34
1.1.1.1.2.4.2.1	Social security contributions from salaries and CfW			55 154 361 CZK	1,46
1.1.1.1.2.4.2.1.1	Social security contributions from salaries and CfW_ ÚFM	7 097 760 CZK	1	7 097 760 CZK	0,41
1.1.1.1.2.4.2.1.2	Social security contributions from salaries and CfW_ VŠCHT	2 009 548 CZK	1	2 009 548 CZK	0,05
1.1.1.1.2.4.2.1.3	Social security contributions from salaries and CfW_ UPOL	252 960 CZK	1	252 960 CZK	9,41
1.1.1.1.2.4.2.1.4	Social security contributions from salaries and CfW_ VŠB	45 794 093 CZK	1	45 794 093 CZK	0,01
1.1.1.1.2.4.2.2	Social security contributions from CoS			34 720 CZK	0,01
1.1.1.1.2.4.2.2.1	Social security contributions from CoS_ ÚFM	34 720 CZK	1	34 720 CZK	4,12
1.1.1.1.2.4.3	Health insurance contributions	20 028 295 CZK	1	20 028 295 CZK	4,11
1.1.1.1.2.4.3.1	Health insurance contributions from salaries and CfW			20 015 695 CZK	0,53
1.1.1.1.2.4.3.1.1	Health insurance contributions from salaries and CfW_ ÚFM	2 575 800 CZK	1	2 575 800 CZK	0,15
1.1.1.1.2.4.3.1.2	Health insurance contributions from salaries and CfW_ VŠCHT	729 271 CZK	1	729 271 CZK	0,02
1.1.1.1.2.4.3.1.3	Health insurance contributions from salaries and CfW_ UPOL	91 800 CZK	1	91 800 CZK	3,42
1.1.1.1.2.4.3.1.4	Health insurance contributions from salaries and CfW_ VŠB	16 618 824 CZK	1	16 618 824 CZK	0
1.1.1.1.2.4.3.2	Health insurance contributions from CoS			12 600 CZK	0
1.1.1.1.2.4.3.2.1	Health insurance contributions from CoS_ ÚFM		1	12 600 CZK	0,12
1.1.1.1.2.4.4	Cultural and social needs fund			597 084 CZK	0,12
1.1.1.1.2.4.4.1	Cultural and social needs fund_ ÚFM	572 400 CZK	1	572 400 CZK	0,01
1.1.1.1.2.4.4.2	Cultural and social needs fund_ UPOL	24 684 CZK	1	24 684 CZK	0
1.1.1.1.2.4.5	Other binding expenditure	0 CZK	0	0 CZK	0
1.1.1.1.2.4.5.1	Employer's liability insurance	0 CZK	0	0 CZK	0
1.1.1.1.2.4.5.2	Other mandatory expenditure	0 CZK	0	0 CZK	0
1.1.1.1.2.5	Author contributions	0 CZK	0	0 CZK	2,63
1.1.1.1.2.6	Travel expenses			12 791 000 CZK	2,16
1.1.1.1.2.6.1	Foreign business trips			10 490 000 CZK	0,08
1.1.1.1.2.6.1.1	Foreign business trips - foreign workplaces_ ÚFM	40 000 CZK	10	400 000 CZK	0,17
1.1.1.1.2.6.1.2	Foreign business trips - foreign conference (inc. conference fee)_ ÚFM	60 000 CZK	14	840 000 CZK	0,16
1.1.1.1.2.6.1.3	Foreign business trips - foreign conference (inc. conference fee)_ VŠCHT	50 000 CZK	16	800 000 CZK	0,22
1.1.1.1.2.6.1.5	Foreign business trips - member of ISAB	30 000 CZK	35	1 050 000 CZK	0,15
1.1.1.1.2.6.1.6	Foreign business trips - foreign workplaces_ VŠB	30 000 CZK	25	750 000 CZK	0,72
1.1.1.1.2.6.1.7	Foreign business trips- foreign conference (inc. conference fee)_ VŠB	50 000 CZK	70	3 500 000 CZK	0,65
1.1.1.1.2.6.1.8	Foreign business trips - incoming experts_ VŠB	30 000 CZK	105	3 150 000 CZK	0,47
1.1.1.1.2.6.2	Per diem			2 301 000 CZK	0,05
1.1.1.1.2.6.2.1	Per diem_ ÚFM	4 425 CZK	50	221 250 CZK	0,43
1.1.1.1.2.6.2.2	Per diem_ VŠB	4 425 CZK	470	2 079 750 CZK	2,83
1.1.1.1.2.7	Purchase of services			13 774 903 CZK	1,07
1.1.1.1.2.7.1	Publication costs, Open Access fees	100 000 CZK	52	5 200 000 CZK	0,2

1.1.1.1.2.7.2	Patent process	123 000 CZK	8	984 000 CZK	0,01
1.1.1.1.2.7.3	Research/expert services_ÚFM	55 903 CZK	1	55 903 CZK	0,1
1.1.1.1.2.7.4	Expert studies/analyses_RWP2_VŠB	500 000 CZK	1	500 000 CZK	0,02
1.1.1.1.2.7.5	Maintenance and repair of DHM assets	35 000 CZK	5	175 000 CZK	0,04
1.1.1.1.2.7.6	Analyses for RWP1_VŠCHT	40 000 CZK	5	180 000 CZK	0,04
1.1.1.1.2.7.7	Analyses for RWP2_VŠCHT	20 000 CZK	5	90 000 CZK	0,02
1.1.1.1.2.7.8	Service, repairs, calibration of equipment_RWP1_VŠB	60 000 CZK	5	300 000 CZK	0,06
1.1.1.1.2.7.9	Service related to the operation of the dynamometer_RWP3_VŠB	60 000 CZK	5	300 000 CZK	0,06
1.1.1.1.2.7.10	Equipment servicing_RWP4_VŠB	24 000 CZK	5	120 000 CZK	0,2
1.1.1.1.2.7.11	Equipment servicing and rental of cylinders_RWP2_VŠB	190 000 CZK	5	950 000 CZK	0,41
1.1.1.1.2.7.12	Consultation and sharing of implementation interface and design elements_RWP1_VŠB	2 000 000 CZK	1	2 000 000 CZK	0,44
1.1.1.1.2.7.13	Training activities for the expert team	2 160 000 CZK	1	2 160 000 CZK	0,16
1.1.1.1.2.7.14	Organization of international conferences, workshops and seminars	760 000 CZK	1	760 000 CZK	0
1.1.1.1.2.8	Direct support	0 CZK	0	0 CZK	3,57
1.1.1.2	Lump sums			17 384 400 CZK	3,57
1.1.1.2.1	Lump sums – administrative team			17 384 400 CZK	2,19
1.1.1.2.1.1	Lump sums – administrative team	289 740 CZK	60	17 384 400 CZK	0
1.1.1.3	Unit costs			10 656 728 CZK	0,52
1.1.1.3.1	Unit costs – expert team	0 CZK	0	0 CZK	1,67
1.1.1.3.2	Unit costs of mobilities - incoming	2 550 333 CZK	1	2 550 333 CZK	0,71
1.1.1.3.3	Unit costs of mobilities - outgoing	8 106 395 CZK	1	8 106 395 CZK	0,71
1.1.1.4	Reserve for personnel expenditure			3 438 228,2 CZK	6,54
1.1.1.4.1	Reserve for personnel expenditure	3 438 228 CZK	1	3 438 228,2 CZK	0
1.1.2	Flat-rate costs			31 827 102,8 CZK	84,47
1.2	Expenditure not reported as eligible in the project			0 CZK	15,53
2	Total eligible expenditure –non-investment			410 962 015 CZK	84,47
3	Total eligible expenditure –investment			75 537 985 CZK	15,53

Funding sources overview

Funding overview stage: Grant application
Currency: CZK
Total resources: 486 500 000
Total ineligible expenditure: 0
Ineligible OFI: 0
Total eligible expenditure (TEE): 486 500 000
Other financial income (OFI): 0
TEE without income: 486 500 000
Income in accordance with article 61 of the general regulation: 0
Union contribution: 339 090 500,01
Support from national public resources: 123 084 499,99
Support in total: 462 175 000
Own funding source: 24 325 000
% of own funding: 5,00
Financing source of own share: Other national public funds
Percentage of own financing - more developed region: irrelevant

Financial plan

Order of the financial plan:	1
Date of submission:	1. 7. 2023

Advance payment - plan:	146 439 000
Advance payment - investments:	25 179 000
Advance payment - non-investments:	121 260 000
Billing - Plan:	0
Billing - Investments:	0
Billing- Non-investments:	0
Billing - plan with deducted income:	0
Billing - Investment with deducted income:	0
Billing - Non-investment with deducted income:	0
Final payment:	No

Order of the financial plan:	2
Date of submission:	1. 12. 2023
Advance payment - plan:	54 151 015
Advance payment - investments:	25 179 000
Advance payment - non-investments:	28 972 015
Billing - Plan:	67 179 000
Billing - Investments:	25 179 000
Billing- Non-investments:	42 000 000
Billing - plan with deducted income:	67 179 000
Billing - Investment with deducted income:	25 179 000
Billing - Non-investment with deducted income:	42 000 000
Final payment:	No

Order of the financial plan:	3
Date of submission:	1. 6. 2024
Advance payment - plan:	54 149 985
Advance payment - investments:	25 179 985
Advance payment - non-investments:	28 970 000
Billing - Plan:	67 179 000
Billing - Investments:	25 179 000
Billing- Non-investments:	42 000 000
Billing - plan with deducted income:	67 179 000
Billing - Investment with deducted income:	25 179 000
Billing - Non-investment with deducted income:	42 000 000
Final payment:	No

Order of the financial plan:	4
Date of submission:	1. 12. 2024
Advance payment - plan:	28 970 000
Advance payment - investments:	0
Advance payment - non-investments:	28 970 000
Billing - Plan:	42 000 000
Billing - Investments:	0
Billing- Non-investments:	42 000 000
Billing - plan with deducted income:	42 000 000
Billing - Investment with deducted income:	0
Billing - Non-investment with deducted income:	42 000 000
Final payment:	No

Order of the financial plan:	5
Date of submission:	1. 6. 2025
Advance payment - plan:	28 970 000
Advance payment - investments:	0
Advance payment - non-investments:	28 970 000
Billing - Plan:	42 000 000
Billing - Investments:	0
Billing- Non-investments:	42 000 000
Billing - plan with deducted income:	42 000 000
Billing - Investment with deducted income:	0
Billing - Non-investment with deducted income:	42 000 000
Final payment:	No

Order of the financial plan:	6
Date of submission:	1. 12. 2025
Advance payment - plan:	28 970 000
Advance payment - investments:	0
Advance payment - non-investments:	28 970 000
Billing - Plan:	42 000 000
Billing - Investments:	0
Billing- Non-investments:	42 000 000
Billing - plan with deducted income:	42 000 000
Billing - Investment with deducted income:	0

Billing - Non-investment with deducted income:	42 000 000
Final payment:	No

Order of the financial plan:	7
Date of submission:	1. 6. 2026
Advance payment - plan:	28 970 000
Advance payment - investments:	0
Advance payment - non-investments:	28 970 000
Billing - Plan:	42 000 000
Billing - Investments:	0
Billing- Non-investments:	42 000 000
Billing - plan with deducted income:	42 000 000
Billing - Investment with deducted income:	0
Billing - Non-investment with deducted income:	42 000 000
Final payment:	No

Order of the financial plan:	8
Date of submission:	1. 12. 2026
Advance payment - plan:	28 970 000
Advance payment - investments:	0
Advance payment - non-investments:	28 970 000
Billing - Plan:	42 000 000
Billing - Investments:	0
Billing- Non-investments:	42 000 000
Billing - plan with deducted income:	42 000 000
Billing - Investment with deducted income:	0
Billing - Non-investment with deducted income:	42 000 000
Final payment:	No

Order of the financial plan:	9
Date of submission:	1. 7. 2027
Advance payment - plan:	28 970 000
Advance payment - investments:	0
Advance payment - non-investments:	28 970 000
Billing - Plan:	42 000 000
Billing - Investments:	0

Billing- Non-investments:	42 000 000
Billing - plan with deducted income:	42 000 000
Billing - Investment with deducted income:	0
Billing - Non-investment with deducted income:	42 000 000
Final payment:	No

Order of the financial plan:	10
Date of submission:	1. 12. 2027
Advance payment - plan:	28 970 000
Advance payment - investments:	0
Advance payment - non-investments:	28 970 000
Billing - Plan:	42 000 000
Billing - Investments:	0
Billing- Non-investments:	42 000 000
Billing - plan with deducted income:	42 000 000
Billing - Investment with deducted income:	0
Billing - Non-investment with deducted income:	42 000 000
Final payment:	No

Order of the financial plan:	11
Date of submission:	1. 7. 2028
Advance payment - plan:	28 970 000
Advance payment - investments:	0
Advance payment - non-investments:	28 970 000
Billing - Plan:	32 962 015
Billing - Investments:	0
Billing- Non-investments:	32 962 015
Billing - plan with deducted income:	32 962 015
Billing - Investment with deducted income:	0
Billing - Non-investment with deducted income:	32 962 015
Final payment:	YES

Indicators

<i>Indicator code:</i>	205 002
<i>Indicator name:</i>	Researchers working in the supported research workplaces
<i>Unit of measurement:</i>	FTE/year jobs

<i>Indicator type:</i>	Output
<i>Initial value:</i>	0
<i>Initial value date:</i>	7.1.2023
<i>Target value:</i>	55
<i>Target value date:</i>	30.6.2028
<i>Value description:</i>	Number of researchers using directly, in their line of activity, the research facility or the equipment for which the support is awarded. The indicator is measured in terms of annual full time equivalents (FTEs).

<i>Indicator code:</i>	244 021
<i>Indicator name:</i>	Number of persons directly affected by the ERDF intervention
<i>Unit of measurement:</i>	persons
<i>Indicator type:</i>	Result
<i>Initial value:</i>	0
<i>Initial value date:</i>	7.1.2023
<i>Target value:</i>	197
<i>Target value date:</i>	30.6.2028
<i>Value description:</i>	Research and technical staff of the beneficiary/partner (persons in an employment relationship with the beneficiary/partner entities) included in the expert team are counted. In addition to the above, researchers participating in the incoming mobility activity are also counted, immediately after the end of the mobility.

<i>Indicator code:</i>	244 001
<i>Indicator name:</i>	Number of research organizations supported
<i>Unit of measurement:</i>	organization
<i>Indicator type:</i>	Output
<i>Initial value:</i>	0
<i>Initial value date:</i>	7.1.2023
<i>Target value:</i>	4
<i>Target value date:</i>	30.6.2028
<i>Value description:</i>	Number of research organizations, which were supported (VŠB-TUO, VŠCHT, ÚFM AV ČR, UPOL).

<i>Indicator code:</i>	244 011
<i>Indicator name:</i>	Number of institutions affected by the intervention
<i>Unit of measurement:</i>	institution
<i>Indicator type:</i>	Result

<i>Initial value:</i>	0
<i>Initial value date:</i>	7.1.2023
<i>Target value:</i>	6
<i>Target value date:</i>	30.6.2028
<i>Value description:</i>	Number of institutions affected by the intervention through the implemented project. Indicator includes these research organisations: VŠB-TUO, UFM AV ČR, VŠCHT, UPOL, VUT, VŠTE.

<i>Indicator code:</i>	203 541
<i>Indicator name:</i>	Number of supported R&D cooperations
<i>Unit of measurement:</i>	cooperation
<i>Indicator type:</i>	Result
<i>Initial value:</i>	0
<i>Initial value date:</i>	7.1.2023
<i>Target value:</i>	31
<i>Target value date:</i>	30.6.2028
<i>Value description:</i>	Total number of intended collaborations with another institution or its part in order to share experience or to implement the activities of the supported project (outside of cooperation between the recipient and partners). It is evidenced by the cooperation agreement/MoU/etc. (parties, purpose, goal, factual description of the cooperation and the period for which it is concluded). At least one collaboration will be established during the implementation of the project. Number of collaborations with Czech institutions: 5. Number of foreign collaborations: 26.

<i>Indicator code:</i>	210 181
<i>Indicator name:</i>	Number of presentations at expert events
<i>Unit of measurement:</i>	presentation
<i>Indicator type:</i>	Output
<i>Initial value:</i>	0
<i>Initial value date:</i>	7.1.2023
<i>Target value:</i>	145
<i>Target value date:</i>	30.6.2028
<i>Value description:</i>	Number of presentations at expert events (conferences/congresses/workshops etc.) that are intended for the expert public.

<i>Indicator code:</i>	203 121
<i>Indicator name:</i>	Number of submitted grants - international
<i>Unit of measurement:</i>	grant application

<i>Indicator type:</i>	Result
<i>Initial value:</i>	0
<i>Initial value date:</i>	7.1.2023
<i>Target value:</i>	15
<i>Target value date:</i>	30.6.2028
<i>Value description:</i>	Number of grant applications submitted by research teams supported by P JAC to international research, development or international cooperation programmes.

<i>Indicator code:</i>	203 121
<i>Indicator name:</i>	Number of submitted grants - national
<i>Unit of measurement:</i>	grant application
<i>Indicator type:</i>	Result
<i>Initial value:</i>	0
<i>Initial value date:</i>	7.1.2023
<i>Target value:</i>	44
<i>Target value date:</i>	30.6.2028
<i>Value description:</i>	Number of grant applications submitted by research teams supported by P JAC to national research, development or innovation programmes.

<i>Indicator code:</i>	214 021
<i>Indicator name:</i>	Publications (Article, book chapter, book)
<i>Unit of measurement:</i>	publication
<i>Indicator type:</i>	Result
<i>Initial value:</i>	0
<i>Initial value date:</i>	7.1.2023
<i>Target value:</i>	175
<i>Target value date:</i>	30.6.2028
<i>Value description:</i>	Number of publications from supported projects. Publications can be in the form of articles, book chapters or books. The indicator values are monitored/ reported regularly during the project implementation and in the first year of the project sustainability.

<i>Indicator code:</i>	214 022
<i>Indicator name:</i>	Publications - letter, review, conference/proceedings paper
<i>Unit of measurement:</i>	publication
<i>Indicator type:</i>	Result

<i>Initial value:</i>	0
<i>Initial value date:</i>	7.1.2023
<i>Target value:</i>	84
<i>Target value date:</i>	30.6.2028
<i>Value description:</i>	Number of publications created within the supported project. Publications of the type 'letter', 'review', 'conference paper' and 'proceeding paper' and an article in a special issue of a journal dedicated to the publication of conference papers are counted. The indicator values are monitored/ reported regularly during the project implementation and in the first year of the project sustainability.

<i>Indicator code:</i>	214 026
<i>Indicator name:</i>	Number of publications (Article, letter a review) published in the first quartile of the most influential journals in the field
<i>Unit of measurement:</i>	publication
<i>Indicator type:</i>	Result
<i>Initial value:</i>	0
<i>Initial value date:</i>	7.1.2023
<i>Target value:</i>	103
<i>Target value date:</i>	30.6.2028
<i>Value description:</i>	The number of "article", "letter" and "review" publications registered in the Thomson Reuters Web of Science or Scopus databases are counted. The indicator values are monitored/ reported regularly during the project implementation and in the first year of the project sustainability.

<i>Indicator code:</i>	214 027
<i>Indicator name:</i>	Publications (Article, letter a review) in the first quartile of publications according to the industry-standard citation rate
<i>Unit of measurement:</i>	publication
<i>Indicator type:</i>	Result
<i>Initial value:</i>	0
<i>Initial value date:</i>	7.1.2023
<i>Target value:</i>	83
<i>Target value date:</i>	30.6.2028
<i>Value description:</i>	The number of "article", "letter" and "review" publications registered in the Thomson Reuters Web of Science or Scopus databases are counted. The field-standardised citation index will be monitored for all publications at the same moment - at the end of the sustainability period. The indicator value will be reported once at the end of the sustainability period.

<i>Indicator code:</i>	214 023
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<i>Indicator name:</i>	Publications (selected document types) with foreign co-authorship produced by supported entities
<i>Unit of measurement:</i>	publication
<i>Indicator type:</i>	Result
<i>Initial value:</i>	0
<i>Initial value date:</i>	7.1.2023
<i>Target value:</i>	103
<i>Target value date:</i>	30.6.2028
<i>Value description:</i>	Publications of the type "article", "book", "book chapter", "letter", "review" and "conference/proceeding paper" which are coauthored by researchers from domestic and foreign institutions. The indicator values are monitored/ reported regularly during the project implementation and in the first year of the project sustainability.

<i>Indicator code:</i>	214 024
<i>Indicator name:</i>	Publications (selected types of documents) co-authored by research organizations and business corporation
<i>Unit of measurement:</i>	publication
<i>Indicator type:</i>	Result
<i>Initial value:</i>	0
<i>Initial value date:</i>	7.1.2023
<i>Target value:</i>	65
<i>Target value date:</i>	30.6.2028
<i>Value description:</i>	Publications of the type "article", "book", "book chapter", "letter", "review" and "conference/proceeding paper" - at least one of the co-authors of the publication is a researcher from research organisation involved in the supported project and at least one of the co-authors is a representative of a business corporation. The indicator values are monitored/ reported regularly during the project implementation and in the first year of the project sustainability.

<i>Indicator code:</i>	214 031
<i>Indicator name:</i>	Other non-publication results (selected types)
<i>Unit of measurement:</i>	Results
<i>Indicator type:</i>	Result
<i>Initial value:</i>	0
<i>Initial value date:</i>	7.1.2023
<i>Target value:</i>	29
<i>Target value date:</i>	30.6.2028
<i>Value description:</i>	Non-publication research results (selected types) of projects supported by the P JAC, which correspond to category II. 4 of the Definition of Types of

	Results of the Methodology of Evaluation of Research Organizations and Programmes of Special Purpose Support for Research, Development and Innovation. There are 4 types of non-publication results expected within project: functional sample, tested technology, software, utility model.
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<i>Indicator code:</i>	214 001
<i>Indicator name:</i>	Patent applications
<i>Unit of measurement:</i>	patent application
<i>Indicator type:</i>	Result
<i>Initial value:</i>	0
<i>Initial value date:</i>	7.1.2023
<i>Target value:</i>	8
<i>Target value date:</i>	30.6.2028
<i>Value description:</i>	Number of grant applications submitted by research Teams.

<i>Indicator code:</i>	208 002
<i>Indicator name:</i>	Incoming mobilities
<i>Unit of measurement:</i>	mobility
<i>Indicator type:</i>	Output
<i>Initial value:</i>	0
<i>Initial value date:</i>	7.1.2023
<i>Target value:</i>	17
<i>Target value date:</i>	30.6.2028
<i>Value description:</i>	Number of incoming mobilities of R&D staff from other institutions to the institution involved in the project for the purpose of knowledge transfer, experience transfer or mutual cooperation.

<i>Indicator code:</i>	204 032
<i>Indicator name:</i>	Outgoing mobilities
<i>Unit of measurement:</i>	mobility
<i>Indicator type:</i>	Output
<i>Initial value:</i>	0
<i>Initial value date:</i>	7.1.2023
<i>Target value:</i>	41
<i>Target value date:</i>	30.6.2028

<i>Value description:</i>	Number of outgoing mobilities of R&D staff from the institution involved in the project to another institution for the purpose of knowledge transfer, experience transfer or mutual cooperation.
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<i>Indicator code:</i>	240 002
<i>Indicator name:</i>	Number of modernised R&D workplaces
<i>Unit of measurement:</i>	publication
<i>Indicator type:</i>	Output
<i>Initial value:</i>	0
<i>Initial value date:</i>	7.1.2023
<i>Target value:</i>	3
<i>Target value date:</i>	30.6.2028
<i>Value description:</i>	The project will be equipped with new research equipment 3 workplaces: VŠB-TUO, VŠCHT and ÚFM AV.

Horizontal principles

Horizontal principle type: Equal opportunities and non-discrimination

Influence of project on a horizontal principle: Neutral to the horizontal principle

Description and reasons for project influence on horizontal principle: 0

Horizontal principle type: Equal opportunities for men and women

Influence of project on a horizontal principle: Neutral to the horizontal principle

Description and reasons for project influence on horizontal principle: 0

Solemn declarations

Solemn declaration name:

Solemn declaration of the applicant (Introductory)

Solemn declaration text:

The statutory body / person acting on a power of attorney issued by the applicant's statutory body declares that applicant:

- meets the definition of eligible applicant defined by the call;
- the action has not been terminated, or physically fully implemented before submitting the grant application, regardless of whether all payments have been carried out by the applicant or not; the action is, according to the regulation of the European Parliament and of the Council (EU) No 2021/1060, defined as a project, contract, measure or group of projects, that have been selected by managing authorities of the programmes concerned, or on their behalf and that contribute to achieving the objectives of priority or priorities; in relation to financial instruments comprise financial contributions from the operation of the program to financial instruments and the subsequent financial support to these financial instruments;
- does not claim the public funds from other financial instruments of the EU, national programmes and programmes of local authorities, as eligible expenditures of the above mentioned project, to be financed from the resources of P JAC outside of their own resources, with the exception of those resources that are directly related to the co-financing of the project and as such will be included in the overview of funding sources in a legal act concerning the grant award/transfer from P JAC.

Solemn declaration name:

Solemn declaration of the applicant (Final)

Solemn declaration text:

The statutory body / person acting on a power of attorney issued by the applicant's statutory body declares that:

- the applicant is aware to be bound by the entire contents of the grant application;
- all information in the submitted grant application and its attachments is accurate and complete;
- the applicant agrees with persisting the data of this grant application in monitoring system MS21+;
- the applicant has not withheld any facts relevant for the assessment of competence to implement the project;
- the applicant agrees with the publication of outputs/products and results of the project where appropriate and with the further use of the grant application for the publicity and awareness raising purposes, processing of analysis of the programme implementation and as an example of good practice in case the project will be supported;
- the applicant is committed to inform immediately the managing authority (MA) of P JAC about any relevant changes in the course of the administrative process;
- the applicant notes that all communication with MA of P JAC will be conducted by an authorized communication via MS21+;
- the applicant will allow access for MA of P JAC to documents relating to the activities, internal structure, etc. at any time during examination of the grant application, as well as in the subsequent implementation of the project and its sustainability, in order to assess whether they comply with the conditions set out in this declaration.

Attached documents

<i>Sequence:</i>	1.
<i>Document name:</i>	Statement of compliance of the project with state aid rules - applicant
<i>Number:</i>	
<i>Predefined document name:</i>	Statement of compliance of the project with state aid rules - applicant
<i>Type of mandatory attachment to the support request:</i>	Documentary
<i>Evidenced file:</i>	Yes
<i>Obligatory:</i>	Yes
<i>Document placement link:</i>	
<i>Attachment type:</i>	Implementation
<i>File:</i>	
<i>Document created by:</i>	OYHRUMIC
<i>Date of insertion:</i>	10.1.2022
<i>Document version:</i>	
<i>Document description:</i>	

<i>Sequence:</i>	2.
<i>Document name:</i>	Statement of compliance of the project with state aid rules - applicant
<i>Number:</i>	
<i>Predefined document name:</i>	Statement of compliance of the project with state aid rules - applicant
<i>Type of mandatory attachment to the support request:</i>	Documentary
<i>Evidenced file:</i>	Yes
<i>Obligatory:</i>	Yes
<i>Document placement link:</i>	
<i>Attachment type:</i>	Implementation
<i>File:</i>	
<i>Document created by:</i>	OYHRUMIC
<i>Date of insertion:</i>	10.1.2022
<i>Document version:</i>	
<i>Document description:</i>	

<i>Sequence:</i>	3.
<i>Document name:</i>	Feasibility study (CZ version)
<i>Number:</i>	
<i>Predefined document name:</i>	Feasibility study (CZ version)
<i>Type of mandatory attachment to the support request:</i>	Documentary
<i>Evidenced file:</i>	Yes
<i>Obligatory:</i>	Yes
<i>Document placement link:</i>	
<i>Attachment type:</i>	Implementation
<i>File:</i>	
<i>Document created by:</i>	OYHRUMIC
<i>Date of insertion:</i>	10.1.2022
<i>Document version:</i>	
<i>Document description:</i>	

<i>Sequence:</i>	4.
<i>Document name:</i>	Comment on budget
<i>Number:</i>	
<i>Predefined document name:</i>	Comment on budget
<i>Type of mandatory attachment to the support request:</i>	Documentary
<i>Evidenced file:</i>	Yes
<i>Obligatory:</i>	Yes

<i>Document placement link:</i>	
<i>Attachment type:</i>	Implementation
<i>File:</i>	
<i>Document created by:</i>	OYHRUMIC
<i>Date of insertion:</i>	10.1.2022
<i>Document version:</i>	
<i>Document description:</i>	

<i>Sequence:</i>	5.
<i>Document name:</i>	Compliance with RIS3 strategy
<i>Number:</i>	
<i>Predefined document name:</i>	Compliance with RIS3 strategy
<i>Type of mandatory attachment to the support request:</i>	Documentary
<i>Evidenced file:</i>	Yes
<i>Obligatory:</i>	Yes
<i>Document placement link:</i>	
<i>Attachment type:</i>	Implementation
<i>File:</i>	
<i>Document created by:</i>	OYHRUMIC
<i>Date of insertion:</i>	10.1.2022
<i>Document version:</i>	
<i>Document description:</i>	

<i>Sequence:</i>	6.
<i>Document name:</i>	Implementation team
<i>Number:</i>	
<i>Predefined document name:</i>	Implementation team
<i>Type of mandatory attachment to the support request:</i>	Documentary
<i>Evidenced file:</i>	Yes
<i>Obligatory:</i>	Yes
<i>Document placement link:</i>	
<i>Attachment type:</i>	Implementation
<i>File:</i>	
<i>Document created by:</i>	OYHRUMIC
<i>Date of insertion:</i>	10.1.2022
<i>Document version:</i>	
<i>Document description:</i>	

<i>Sequence:</i>	7.
<i>Document name:</i>	Lump sum calculator (b1)
<i>Number:</i>	
<i>Predefined document name:</i>	Lump sum calculator (b1)
<i>Type of mandatory attachment to the support request:</i>	Documentary
<i>Evidenced file:</i>	Yes
<i>Obligatory:</i>	Yes
<i>Document placement link:</i>	
<i>Attachment type:</i>	Implementation
<i>File:</i>	
<i>Document created by:</i>	OYHRUMIC
<i>Date of insertion:</i>	10.1.2022
<i>Document version:</i>	
<i>Document description:</i>	

<i>Sequence:</i>	8.
<i>Document name:</i>	Annexes in English
<i>Number:</i>	
<i>Predefined document name:</i>	Annexes in English
<i>Type of mandatory attachment to the support request:</i>	Documentary
<i>Evidenced file:</i>	Yes

<i>Obligatory:</i>	Yes
<i>Document placement link:</i>	
<i>Attachment type:</i>	Implementation
<i>File:</i>	
<i>Document created by:</i>	OYHRUMIC
<i>Date of insertion:</i>	10.1.2022
<i>Document version:</i>	
<i>Document description:</i>	

<i>Sequence:</i>	9.
<i>Document name:</i>	Statutory declaration on the proof of turnover - applicant
<i>Number:</i>	
<i>Predefined document name:</i>	Statutory declaration on the proof of turnover - applicant
<i>Type of mandatory attachment to the support request:</i>	Documentary
<i>Evidenced file:</i>	Yes
<i>Obligatory:</i>	Yes
<i>Document placement link:</i>	
<i>Attachment type:</i>	Implementation
<i>File:</i>	
<i>Document created by:</i>	OYHRUMIC
<i>Date of insertion:</i>	10.1.2022
<i>Document version:</i>	
<i>Document description:</i>	

<i>Sequence:</i>	10.
<i>Document name:</i>	Overview of public contracts
<i>Number:</i>	
<i>Predefined document name:</i>	Overview of public contracts
<i>Type of mandatory attachment to the support request:</i>	Documentary
<i>Evidenced file:</i>	Yes
<i>Obligatory:</i>	Yes
<i>Document placement link:</i>	
<i>Attachment type:</i>	Implementation
<i>File:</i>	
<i>Document created by:</i>	OYHRUMIC
<i>Date of insertion:</i>	10.1.2022
<i>Document version:</i>	
<i>Document description:</i>	

<i>Sequence:</i>	11.
<i>Document name:</i>	Evidence demonstrating compliance with the definition of an eligible applicant
<i>Number:</i>	
<i>Predefined document name:</i>	Evidence demonstrating compliance with the definition of an eligible applicant
<i>Type of mandatory attachment to the support request:</i>	Documentary
<i>Evidenced file:</i>	Yes
<i>Obligatory:</i>	Yes
<i>Document placement link:</i>	
<i>Attachment type:</i>	Implementation
<i>File:</i>	
<i>Document created by:</i>	OYHRUMIC
<i>Date of insertion:</i>	10.1.2022
<i>Document version:</i>	
<i>Document description:</i>	

<i>Sequence:</i>	12.
<i>Document name:</i>	Solemn declaration - initial, final (partner)

<i>Number:</i>	
<i>Predefined document name:</i>	Solemn declaration - initial, final (partner)
<i>Type of mandatory attachment to the support request:</i>	Documentary
<i>Evidenced file:</i>	Yes
<i>Obligatory:</i>	Yes
<i>Document placement link:</i>	
<i>Attachment type:</i>	Implementation
<i>File:</i>	
<i>Document created by:</i>	OYHRUMIC
<i>Date of insertion:</i>	10.1.2022
<i>Document version:</i>	
<i>Document description:</i>	

<i>Sequence:</i>	13.
<i>Document name:</i>	Declaration of acceptability - partner
<i>Number:</i>	
<i>Predefined document name:</i>	Declaration of acceptability - partner
<i>Type of mandatory attachment to the support request:</i>	Documentary
<i>Evidenced file:</i>	Yes
<i>Obligatory:</i>	Yes
<i>Document placement link:</i>	
<i>Attachment type:</i>	Implementation
<i>File:</i>	
<i>Document created by:</i>	OYHRUMIC
<i>Date of insertion:</i>	10.1.2022
<i>Document version:</i>	
<i>Document description:</i>	

<i>Sequence:</i>	14.
<i>Document name:</i>	Statement of compliance of the project with state aid rules - partner
<i>Number:</i>	
<i>Predefined document name:</i>	Statement of compliance of the project with state aid rules - partner
<i>Type of mandatory attachment to the support request:</i>	Documentary
<i>Evidenced file:</i>	Yes
<i>Obligatory:</i>	Yes
<i>Document placement link:</i>	
<i>Attachment type:</i>	Implementation
<i>File:</i>	
<i>Document created by:</i>	OYHRUMIC
<i>Date of insertion:</i>	10.1.2022
<i>Document version:</i>	
<i>Document description:</i>	

<i>Sequence:</i>	15.
<i>Document name:</i>	Proving ownership structure
<i>Number:</i>	
<i>Predefined document name:</i>	Proving ownership structure
<i>Type of mandatory attachment to the support request:</i>	Documentary
<i>Evidenced file:</i>	Yes
<i>Obligatory:</i>	Yes
<i>Document placement link:</i>	
<i>Attachment type:</i>	Implementation
<i>File:</i>	
<i>Document created by:</i>	OYHRUMIC
<i>Date of insertion:</i>	10.1.2022
<i>Document version:</i>	
<i>Document description:</i>	

Sequence:	16.
Document name:	Partnership principles and statement of partnership
Number:	
Predefined document name:	Partnership principles and statement of partnership
Type of mandatory attachment to the support request:	Documentary
Evidenced file:	Yes
Obligatory:	Yes
Document placement link:	
Attachment type:	Implementation
File:	
Document created by:	OYHRUMIC
Date of insertion:	10.1.2022
Document version:	
Document description:	

Sequence:	17.
Document name:	Quotations_UFM AV CR
Number:	
Predefined document name:	
Type of mandatory attachment to the support request:	
Evidenced file:	Yes
Obligatory:	No
Document placement link:	
Attachment type:	Implementation
File:	
Document created by:	OYHRUMIC
Date of insertion:	10.1.2022
Document version:	
Document description:	

Sequence:	18.
Document name:	Quotations_VŠCHT
Number:	
Predefined document name:	
Type of mandatory attachment to the support request:	
Evidenced file:	Yes
Obligatory:	No
Document placement link:	
Attachment type:	Implementation
File:	
Document created by:	OYHRUMIC
Date of insertion:	10.1.2022
Document version:	
Document description:	

Sequence:	19.
Document name:	Quotations_VZ1_VŠB
Number:	
Predefined document name:	
Type of mandatory attachment to the support request:	
Evidenced file:	Yes
Obligatory:	No
Document placement link:	
Attachment type:	Implementation
File:	
Document created by:	OYHRUMIC

<i>Date of insertion:</i>	10.1.2022
<i>Document version:</i>	
<i>Document description:</i>	

<i>Sequence:</i>	20.
<i>Document name:</i>	Quotations_VZ2_VŠB
<i>Number:</i>	
<i>Predefined document name:</i>	
<i>Type of mandatory attachment to the support request:</i>	
<i>Evidenced file:</i>	Yes
<i>Obligatory:</i>	No
<i>Document placement link:</i>	
<i>Attachment type:</i>	Implementation
<i>File:</i>	
<i>Document created by:</i>	OYHRUMIC
<i>Date of insertion:</i>	10.1.2022
<i>Document version:</i>	
<i>Document description:</i>	

<i>Sequence:</i>	21.
<i>Document name:</i>	Quotations_VZ3_VŠB
<i>Number:</i>	
<i>Predefined document name:</i>	
<i>Type of mandatory attachment to the support request:</i>	
<i>Evidenced file:</i>	Yes
<i>Obligatory:</i>	No
<i>Document placement link:</i>	
<i>Attachment type:</i>	Implementation
<i>File:</i>	
<i>Document created by:</i>	OYHRUMIC
<i>Date of insertion:</i>	10.1.2022
<i>Document version:</i>	
<i>Document description:</i>	

<i>Sequence:</i>	22.
<i>Document name:</i>	Quotations_VZ4_VŠB
<i>Number:</i>	
<i>Predefined document name:</i>	
<i>Type of mandatory attachment to the support request:</i>	
<i>Evidenced file:</i>	Yes
<i>Obligatory:</i>	No
<i>Document placement link:</i>	
<i>Attachment type:</i>	Implementation
<i>File:</i>	
<i>Document created by:</i>	OYHRUMIC
<i>Date of insertion:</i>	10.1.2022
<i>Document version:</i>	
<i>Document description:</i>	

<i>Sequence:</i>	23.
<i>Document name:</i>	Memorandum of understanding
<i>Number:</i>	
<i>Predefined document name:</i>	
<i>Type of mandatory attachment to the support request:</i>	
<i>Evidenced file:</i>	Yes
<i>Obligatory:</i>	No

<i>Document placement link:</i>	
<i>Attachment type:</i>	Implementation
<i>File:</i>	
<i>Document created by:</i>	OYHRUMIC
<i>Date of insertion:</i>	10.1.2022
<i>Document version:</i>	
<i>Document description:</i>	

<i>Sequence:</i>	24.
<i>Document name:</i>	Letters of intent
<i>Number:</i>	
<i>Predefined document name:</i>	
<i>Type of mandatory attachment to the support request:</i>	
<i>Evidenced file:</i>	Yes
<i>Obligatory:</i>	No
<i>Document placement link:</i>	
<i>Attachment type:</i>	Implementation
<i>File:</i>	
<i>Document created by:</i>	OYHRUMIC
<i>Date of insertion:</i>	10.1.2022
<i>Document version:</i>	
<i>Document description:</i>	

<i>Sequence:</i>	25.
<i>Document name:</i>	Power of Attorney
<i>Number:</i>	
<i>Predefined document name:</i>	
<i>Type of mandatory attachment to the support request:</i>	
<i>Evidenced file:</i>	Yes
<i>Obligatory:</i>	No
<i>Document placement link:</i>	
<i>Attachment type:</i>	Implementation
<i>File:</i>	
<i>Document created by:</i>	OYHRUMIC
<i>Date of insertion:</i>	10.1.2022
<i>Document version:</i>	
<i>Document description:</i>	