

TECHNICAL SHEET A

Project Title:

"Tech Transfer for Sustainable Development. From the Frascati and Oslo manuals to the new horizons of the Roman and Lazio ecosystem of sustainable innovation"

Partner Company: Gruppo 2Due Righe S.r.l.

Project Description:

Cities are the engines of innovation and the springboard for implementing research and innovation policies, where one can experiment with local and urban innovation processes related to technology transfer (Foster, Iaione, 2022, MIT Press). In this context, universities play a strategic role in creating social coalitions between researchers, business enterprises and public authorities, promoting research and innovation. This approach is grounded in methodological protocols derived from Ostrom's notion of collaboration, through which urban actors share resources and knowledge in pursuit of new forms of the commons (Ostrom, Hess, 2010).

The research project aims to connect the goals of sustainability and circular economy with the process of technology transfer between the actors recognized by the Frascati Manual as performing R&D activities, in relation to the use of R&D tax credits. The research project aspires to investigate from a highly scientific point of view the concepts of "innovation", "research" and the relationship between science and technology, understood as the foundations of the process of a technology transfer that is geared towards the attainment of sustainable development goals in urban contexts, taking as a starting point an analysis and critique of both the Oslo Manual and the Frascati Manual. Both manuals are the main international reference points for definitions and methodologies in research, development and innovation.

Business innovation is currently the key factor in initiating a transformation of economic relations that is appropriate to the new dimensions of the global market: an enterprise capable of producing innovation possesses superior strategic skills compared to its competitors. However, the principle that innovation and research cannot be separated from development that is sustainable in multiple aspects (environmental, social and economic sustainability) is well established.

The material effect of innovation is first achieved through R&D, which form the core of the future value of business activity. From this perspective, research becomes the foundational pillar of the industrial process of the global market in the era of Industry 4.0. The transfer of these technologies and knowledge subsequently becomes the enabling element within processes, products and services that impact society.

Despite the undisputed importance at the scientific level of the notion of research, what is lacking at domestic law level is a specific and precise definition of that concept. Consequently, there is a need for a rule defining the characteristics of research in order to provide a useful legislative parameter for the recognition of that activity. On the subject of innovation, the most relevant document jointly drafted by the OECD and European institutions is the Oslo Manual, the most recent version of which dates back to 2018. The Frascati Manual, developed in 1963 by the OECD, serves as a fundamental supranational soft law document on R&D and defines the notion of research in its various facets. Under the Oslo Manual, the research need not be an innovation for all users as long as it is so for the enterprise. By contrast, under the Frascati Manual, the benefits of the research must be usable by the entire economic

sector.

The Frascati Manual is now of great weight in the Italian legal system given that Law No. 160 of 27 December 2019 (Budget Law 2020) expressly provides that it is an indispensable parameter for identifying, analyzing and tracking research eligible for R&D tax relief. In this regard, pursuant to Article 1(200) "basic research, industrial research and experimental development in science or technology are considered as R&D activities eligible for the tax credit" while "the criteria for the proper application of these definitions, which takes into account the principles and criteria contained in the OECD Frascati Manual" are laid down in Article 2 of the Ministerial Decree of 26 May 2020.

For this reason, it will be necessary for the doctoral student to critically evaluate the law on the issues of innovation, R&D and technology transfer, with the ultimate aim of devising a process of reviewing the legislation in question, seeking to answer the following research question: In what form can an additional characteristic, namely the qualifying criterion of "sustainability", be introduced among the five requirements of the Frascati Manual (Novelty, Creativity, Uncertainty, Systematicity and Transferability)?

The Frascati Manual has taken on a key role internationally because it is at the root of the notion of R&D commonly adopted by the various OECD Member States. The Frascati Manual identifies research as a systematic and organized activity aimed at the acquisition of new knowledge as well as the development of new operational methodologies and techniques.

Specifically, the Manual states that to be considered relevant for research purposes, a given activity must simultaneously meet 5 criteria, listed below:

1. novelty;
2. creativity;
3. uncertainty;
4. systematicity;
5. transferability.

In addition to the lack of a hypothetical sixth criterion tied to the sustainability of any given activity, a critical issue that arises with respect to the Frascati Manual is the fact that the benefit of the activity must be capable of being enjoyed by the economic sector in its entirety. This seems rather reductive towards the entrepreneurial ecosystem, considering that, by definition, an enterprise capable of producing R&D constitutes an undeniable and fundamental social benefit, irrespective of the breadth of the hypothetical range of users. This stance adopted in the Frascati Manual also appears to be very restrictive for the purposes of qualifying for an R&D tax credit, a measure that as aforesaid takes the Oslo and Frascati manuals as reference points for identifying the objective requirements for the application of that tax relief.

In the direction of seeking to encourage enterprises to engage in sustainable innovation along with the technology transfer of the knowledge involved, to promote circular economy models and the creation of innovation ecosystems rooted locally, the expected outcome of the research project is a concrete proposal to revise the stringent parameters set by the Frascati and Oslo manuals, attempting to introduce a qualifying criterion of sustainability with the ultimate goal of streamlining the procedures for accessing R&D tax credits.

For the purposes of accessing R&D tax credits, thought could be given to considering a situation in which an enterprise, although not proposing innovative research activity for the entire economic sector

(an application criterion under the Frascati Manual) but only for the firm itself, may still fall within the parameters of the Manual if the proposed innovation is sustainable for the entire audience of users. In this regard, reference is made to ESG indices, which are linked to the goals of encouraging sustainable economic growth through a fair and responsible business model. The aim is to create a connection between the critical analysis of the Oslo and Frascati manuals in relation to R&D tax credits and the process of technology transfer between the actors recognized by the Frascati Manual as R&D performers. In short, how R&D tax credits intersect and dialogue with technology transfer in order to realize a tech transfer ecosystem for sustainable development.

In order to develop the topic, the doctoral student will be able to implement the research activity thanks to the scientific training gained through attending the academic courses of the PhD in Law and Business at Luiss University, in close conjunction with the interdisciplinary Law, Digital Innovation & Sustainability master's degree program, with the Law & Innovation major of the single-cycle master's degree program in Law, with the DREAM (Laws and Rules for European Administration and Markets), BILL (Blockchain, Artificial Intelligence and Digital Innovation Law Lab) and LabGov.City research centers and laboratories, with the research and innovation projects of the House of Emerging Technologies - Roma Open Lab and with the Horizon 2020 EUARENAS, Engage R&I and AWARE programs. And through working at Gruppo 2Due Righe S.r.l.

All these actors, typifying the various categories of entities active in the process of research, innovation and technology transfer, will allow the doctoral student to think in an ecosystem logic, ensuring that the results of the research project take into account the multiple realities that are involved in sustainable innovation.

In addition, active communication with public decision-makers is an integral part of the core business, and with this in mind, it is envisaged that at the end of the doctorate a proposal for the revision of the Oslo and Frascati manuals will be developed. In addition, the doctoral student will have the opportunity to implement their research activities by spending a period at Gruppo 2Due Righe S.r.l.'s headquarters in London, where they will have the opportunity to engage with an international team of experts. Gruppo 2Due Righe S.r.l. in partnership with Luiss University is involved in the Innovation doctoral program promoted by the Lazio Region and works to support firms in the following strategic areas:

- ◆ CONSULTING/RELATION AREA: Public Affairs & Lobbying; Institutional Analysis & Strategies; Political-Institutional Monitoring & Intelligence; Advocacy & Institutional Communications; Digital Advocacy; Media Relations; Opinion Maker Engagement & Relationship Building Meetings; Crisis Management (Media & Digital); Training & Coaching; Legal & Corporate Affairs.
- ◆ STRATEGY: Corporate Finance; Customer Strategy & Marketing; M&A and Divestitures Operation; Performance Development Organization; Private Equity; Sustainability Strategy; Corporate Responsibility; Change Management.
- ◆ CREATIVE AREA: Brand Identity; Corporate Identity; Brand Positioning; Marketing & Communication; Advertising; Digital Strategy; Digital Marketing; Digital Content Strategy; ATL and TTL Strategies; Event Organization and BTL Campaigns.
- ◆ TECH AREA: App; Web App; Blockchain; NFT; Smart Contracts; Machine Learning; Cyber Security; Artificial Intelligence; Augmented Reality; IOT (Internet of Things); Big Data & Analytics.

Gruppo 2Due Righe S.r.l. as an innovative start-up that has its registered office in Rome, carries out its business at national and international level, focusing on the promotion of cultural development and

scientific research in support of the enterprises to which it provides professional consulting services, from multiple standpoints. With this in mind, it is the Company's intention to promote a technology transfer process that is efficient for both the research world and the business ecosystem in which it operates.

Active communication with public decision-makers is an integral part of the core business, and with this in mind, it is envisaged that the doctorate will culminate in the development of a proposal to revise the Oslo and Frascati manuals. In this regard, the doctoral project fits perfectly into the growth prospects of the start-up's Advocacy and Institutional Communication (Consulting/Relation Area) and Sustainability Strategy (Strategy Area).

In particular, Gruppo 2Due Righe S.r.l has already implemented some projects in line with the objectives pursued by the project, including:

- ◆ Sustainability Observatory;
- ◆ Innovation Observatory;
- ◆ Creation of the "g2r software" start-up (innovative start-up for advanced web development: IOT (Internet of Things);
- ◆ AI (Artificial Intelligence), AR (Augmented Reality), Cyber Security, Web 3.0 and 4.0);
- ◆ Creation of the "g2r token" start-up (innovative start-up for advanced technological solutions in the field of Blockchain, Smart Contracts, NFT and Web.3);
- ◆ PIR PANEL (software for managing PIRs and Alternative PIRs: through APIs and other advanced development languages the user is constantly updated regarding their investments and capital gains);
- ◆ T.R.E.E. © REPORT (I.T.R.E.E.© REPORT has been designed with the aim of helping organizations understand their level of sustainability, identifying areas of strength and aspects to be investigated in order to pinpoint measures that can enable them to achieve a significant improvement in their performance, through planning action to be taken in the short, medium and long term. Defining the strategy to be followed, planning actions correctly, measuring results and monitoring progress over time is the correct approach to governing sustainability issues, not only effectively managing market demands but also being able to foresee future trends and needs).

Therefore, the doctoral student will play an important role in the team of Gruppo 2Due Righe S.r.l, will be an integral part of the Company's creative and design process, will participate in the Company's daily life and in the implementation of projects aimed at encouraging a sustainable economy. As a professionalizing objective, the Company will seek to provide adequate tools so that the doctoral project can bring the doctoral student closer to the professional figure of Eco manager and sustainability expert, with special focus on the consulting and strategy areas and specifically on sustainability strategy, change management, public affairs & lobbying, political-institutional monitoring and intelligence, advocacy and institutional communication, and legal and corporate affairs. In addition, it will be the Company's priority to show the doctoral student how to work in the various strategic areas in which it operates, with the aim of fostering dialogue with institutions.

At the end of the doctorate, the project thus carried out will culminate in drawing up a proposal to revise the Oslo and Frascati manuals, with associated promotion of a sustainable technology transfer process that is efficient for the research world and the ecosystem of actors recognized by the Frascati Manual as R&D performers in which society operates.

The purpose of the project is precisely to promote communication with public decision-makers in the

area of access to R&D tax credits. The latter aim to support business competitiveness by stimulating investment in R&D, technological innovation, including in the context of the 4.0 paradigm and circular economy, design and aesthetic ideation.

For R&D activities (defined in accordance with the criteria of the Frascati Manual), in Italy a tax credit is granted in fiscal 2022 in an amount equal to 20% of the relevant calculation base, net of other subsidies or grants for any reason received in respect of the same eligible expenditure, up to an annual limit of 4 million euros (10% from fiscal 2023 up to an annual limit of 5 million euros).

For the technological innovation activities (in accordance with the provisions of the Oslo Manual) covered by Article 1(201), a tax credit is granted in fiscal 2023 in an amount equal to 10% of the relevant calculation base, net of other subsidies or grants for any reason received for the same eligible expenditure, up to an annual limit of 2 million euros, prorated per year in the case of a tax period shorter or longer than 12 months (5% from fiscal 2024, up to an annual limit of 2 million euros). The tax credit can be monetized exclusively by set off, in three annual equal installments (with carry-over of the surplus), starting from the tax year following the one in which the credit accrues, subject to the fulfillment of certification requirements.

The expected outcome of the research project is a concrete proposal to revise the stringent parameters defined by the Frascati and Oslo manuals, attempting to introduce the qualifying criterion of sustainability, with the ultimate goal of streamlining the procedure for availing of R&D tax credits in order to create a technology transfer ecosystem for sustainable development. In fact, thanks to a new vision of the Frascati and Oslo manuals, it will be possible to bring advances in science to different business sectors, in which private entities, public entities and non-profit entities operate. For the latter, although direct access to a tax credit is not possible, it is nevertheless contemplated when R&D activities are commissioned by third-party companies that will be directly granted the credit. In this way, with a more efficient procedure for availing of the tax relief in question, R&D by companies will be primarily incentivized, and in the wake thereof activities commissioned from nonprofit entities will be implemented.

The results obtained from the research will be able to be immediately applied to real contexts, thanks to the experimentation in the projects mentioned above such as the research and innovation projects of the House of Emerging Technologies - Rome Open Lab, the Horizon 2020 EUARENAS, Engage R&I and AWARE programs and the projects in which Gruppo 2Due Righe S.r.l. is involved. It will thus be possible to test the research hypothesis in practical terms in order to assess its effects from an implementation standpoint. The researcher will thus be able to provide insights, advice, and new viewpoints to design with the possibility of replicating the results obtained in new projects and towards new public and private partners, so that the objectives of social, economic, and environmental sustainability are achieved.

The doctorate envisages that the doctoral student will engage in research and training activities at Luiss University, attending multi-disciplinary lectures by professors with a wealth of knowledge and expertise. The study and training activities may be enriched by attending courses of the major of the single-cycle master's degree program in Law and courses of the Law, Digital, Innovation and Sustainability master's degree program. And also by participating in the research and design activities of the LabGov.City research lab, a research and experimentation group that is part of CISS (Center for International and Strategic Studies), as well as in the work of the DREAM research center and the BILL laboratory affiliated with the Department of Law and the School of Law respectively.

The work of the doctoral student will also be supervised and constantly supported by a tutor from the

host company. Right from the very beginning that tutor, together with the Luiss University supervisor, will oversee the doctoral student's research, contributing to establishing the topics and methods of research and the table of contents of the PhD thesis. During the doctoral student's time at Gruppo 2Due Righe S.r.l. focused mainly on field study and research, the tutor will work alongside the student assisting them in research activity and data reporting for their thesis.

The applied research activity abroad will take place at the London offices of Gruppo 2Due Righe S.r.l. during the fifth semester of the doctorate. The doctoral student's time at the Company's offices abroad will be linked to the study and research activity at London Business School connected to Gruppo 2Due Righe S.r.l.

In this way, the doctoral student will be able to carry out a comparative analysis of their research with the entrepreneurial theories in vogue abroad, empirically analyzing the different procedural models of access to R&D tax credits in order to foster dialogue and interaction for the experimentation of a sustainable and efficient technology transfer process for the research world and the entrepreneurial ecosystem. In addition, the doctoral student will be offered the opportunity to conduct interviews and participate in workshops of project activities and networking related to projects in the field of technology transfer for sustainable development.

This empirical data collection phase will be functional to the development of a dashboard of indicators and their testing, including from a comparative perspective. In the course of this activity, the doctoral student will be engaged in collecting research materials of interest for the purposes of writing the thesis and will have the opportunity to engage with leading researchers and practitioners in the academic field that the thesis concerns. The experience at the partner company's offices abroad and at London Business School will enable the doctoral student to acquire practical skills that can be redeployed in their career path both in the business world and in public institutions.

The research period abroad will be 3 months, during which the doctoral student's activity will be supervised and constantly supported by a tutor at partner company's offices abroad. That foreign tutor, in conjunction with the Luiss University supervisor and that of the partner company in Italy, will supervise the research activity of the doctoral student, contributing to establishing the topics and methods of research and the table of contents of the PhD thesis, as well as the collection of empirical data for the writing of the thesis.

The research project, in the terms and manner described so far, falls within the scope of the objectives set by the Regional Strategy of Intelligent Specialization, the Business 4.0 National Plan, aimed at encouraging initiatives capable of fostering investment for innovation and competitiveness also in support of innovative start-ups and SMEs (Law No. 232 of 11 December 2016 and subsequent measures like Law No. 160 of 27 December 2019), and the Lazio Digital Agenda. In this way, a significant contribution can be made to the achievement of the sustainable development goals identified by regional strategies and national plans, creating job opportunities through the construction of an ecosystem conducive to the development of a sustainable and innovative business and community environment.

In summary, the doctorate will last three years. The involvement of the doctoral student in the field with Gruppo 2Due Righe S.r.l. will start right from the first semester, concurrently with the research and academic training activities at Luiss University and will intensify in the third and fourth semesters, continuing abroad in the fifth semester at the London offices of the partner company and carrying out research activities at London Business School. In the sixth semester, the doctoral student will return to their research in Italy at Gruppo 2Due Righe S.r.l. The doctoral student will thus have the opportunity

to field test what has been learned in the previous phases, participating in the prototyping of innovative solutions to be tested in the partner company's projects and for the benefit of all stakeholders. The sixth semester will also be devoted to the completion of the thesis.

Therefore, this research falls within the scope of technology transfer, taking as its starting point the analysis and critical study of both the Oslo Manual and the Frascati Manual. The research enables the development of an innovation process for the transformation of economic relations in today's market production contexts.