The definition of a living laboratory

Country	Definition in native tongue	EN	Reference
European level	Living Labs (LLs) are open innovation ecosystems in real-life environments using iterative feedback processes throughout a lifecycle approach of an innovation to create sustainable impact. They focus on co-creation, rapid prototyping & testing and scaling-up innovations & businesses, providing (different types of) joint-value to the involved stakeholders. In this context, living labs operate as intermediaries/orchestrators among citizens, research organisations, companies and government agencies/levels. Within a wide variety of living labs, they all have common characteristics, but multiple different implementations *A Living Lab can be initiated and hosted in a university, city, research institute, municipality, or any space where the user is placed at the center of the co-creation process.*		European Network of Living Labs https://enoll.org/about-us/
Alexandru Ioan Cuza University of Iași (Romania)	"Ce sunt laboratoarele vii? Ecosisteme de Inovare deschisă, Facilități de co-creare și testare, Cadru de viață reală, Centrat pe utilizator"	„What are Living Laboratories? Open Innovation Ecosystems, Co-creation and testing facilities, Real-life framework, User-centered"	**UVT Digital & Green Living Lab**, West University of Timișoara https://www.uvt.ro/cercetare/cercetare-si-inovare/inovare-si-transfer-tehnologic/enoll-prin-uvt-digital-green-living-lab/
	Conceptul "Living Labs" - stimularea inovării prin mutarea cercetării din laboratoare în viața reală a orașelor și regiunilor, unde cetățenii și utilizatorii au fost încurajați să coopereze cu cercetatorii, dezvoltatorii și proiectanții pentru a contribui la întregul proces de inovare	"Living Labs" concept - stimulating innovation by moving research from laboratories to the real life of cities and regions, where citizens and users were encouraged to cooperate with researchers, developers and designers to contribute to the whole innovation process	Ion TONCEA, Tudor STANCIU, Steliana RODINO, Vladimir Adrian TONCEA, Gina FÎNTÎNERU. (2022). Laboratoare vii agroecologice (all-organic) din Romania "Ferma de legume ecologice "Beleza Store srl – Vâlcelele/Călărași" (studiu de caz).

			ICEADR International Symposium, 16/03/2023
	"2.2 Condiții-cadru pentru inovarea în domeniul tehnologiei profunde 2.2.2 Inițiativa emblematică privind facilitarea inovării în domeniul tehnologiei profunde prin spații de experimentare și achiziții publice (...) va oferi sprijin inovatorilor pentru a identifica domeniile și a stabili un **spațiu de experimentare**, precum spațiile de testare în materie de reglementare, **laboratoarele vii** sau bancurile de încercare, care ar putea facilita implementarea tehnologiilor disruptive prin intermediul viitoarelor cereri de propuneri."	„2.2 Framework conditions for deep tech innovation 2.2.2 Flagship on enabling deep tech innovation through experimentation spaces and public procurement (...) support will be provided for innovators to identify areas and establish **an experimentation space, such as** regulatory sandboxes, **living labs** or test beds, which could facilitate the deployment of disruptive technologies through future calls	Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. A new European innovation agenda. (2022) EN - https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52022DC0332 RO - https://eur-lex.europa.eu/legal-content/RO/TXT/PDF/?uri=CELEX:52022DC0332 - DECISION no. 85 of December 19, 2022 regarding the adoption of the opinion regarding the *Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. A new European innovation agenda. (2022)* Romanian Legislation - https://legislatie.just.ro/Public/DetaliiDocument/262901

„Știința deschisă (open science) este o componentă a politicii științei care urmărește atingerea unui nivel superior de integrare a rezultatelor științifice în dezvoltarea societății prin acces liber (open access) la publicațiile științifice și datele de cercetare obținute prin finanțarea din fonduri publice, precum și prin facilitarea unor procese deschise de producere și acumulare de cunoștințe prin inovare (open innovation), educație (open educational resources) <u>și participare colaborativă a cetățenilor la cercetare și inovare în diferite etape ale procesului și la diferite niveluri de implicare, de la dezvoltarea agendelor și politicilor de cercetare, până la colectarea, procesarea și analiza datelor și evaluarea rezultatelor de cercetare (citizen science)"</u>	„Open science is a component of science policy that aims to achieve a higher level of integration of scientific results in the development of society through open access to scientific publications and research data obtained through funding from public funds, as well as through facilitating open processes of production and accumulation of knowledge through innovation (open innovation), education (open educational resources) <u>and collaborative participation of citizens in research and innovation at different stages of the process and at different levels of involvement, from the development of agendas and policies of research, up to the collection, processing and analysis of data and the evaluation of research results (citizen science)"</u>	CARTEA ALBĂ A TRANZIȚIEI CĂTRE ȘTIINȚA DESCHISĂ (2023-2030)- Document strategic privind Cadrul Dezvoltării Științei Deschise în România. (2022). THE WHITE PAPER OF THE TRANSITION TO OPEN SCIENCE (2023-2030)- Strategic document regarding the Open Science Development Framework in Romania. (2022). https://uploads-ssl.webflow.com/615f0ec368dc44a3d513e3ba/63a23b5a3853df2aac215bc1_Carte%20Alba%20OS_18.12.pdf
„Știință deschisă - partajarea timpurie și deschisă a cercetării (...) <u>și implicarea tuturor actorilor relevanți în materie de cunoaștere, inclusiv cetățenii, societatea civilă și utilizatorii finali în co-crearea agendelor și conținuturilor de cercetare și inovare (cum ar fi „citizen science")"</u>	„Open science - early and open research sharing (...) <u>and engaging all relevant knowledge actors, including citizens, civil society and end-users in co-creating agendas and research and innovation contents (such as citizen science)"</u>	A4_1_Descrierea practicilor științei deschise în cadrul programului Orizont Europa 2021 – 2027. Document informativ. (2022). A4_1_Description of open science practices within the Horizon Europe 2021 – 2027 programme. Briefing document. (2022). https://uefiscdi.gov.ro/

University of Poitiers (France)	Le living lab ou « laboratoire vivant » est un concept créé pour soutenir les processus de développement de technologies de l'information et de la communication (TIC) centrées sur l'utilisateur. Un living lab se définit à la fois comme un environnement et une approche. Cette démarche accompagne un processus d'innovation propice à l'élaboration des scénarios d'usage en appartement-laboratoire et aux expérimentations en conditions réelles dans l'habitat quotidien. La démarche consiste à impliquer des usagers dans la conception de futurs outils technologiques et de services. Le but du living lab est d'orienter ladite technologie vers la simplicité de mise en œuvre et d'utilisabilité, en pensant l'interaction homme-machine dans son environnement et son contexte d'usage.	The living lab, or « laboratoire vivant »," is a concept created to support the development processes of user-centered information and communication technologies (ICT). A living lab is defined as both an environment and an approach. This approach accompanies an innovation process conducive to the development of usage scenarios in a laboratory apartment and real-life experimentation in everyday living environments. The approach involves involving users in the design of future technological tools and services. The goal of the living lab is to guide said technology towards simplicity of implementation and usability by considering human-machine interaction within its environment and usage context.	Dimitri Voilmy, « Les living labs et la conception participative : l'exemple d'ActivAgeing », Retraite et société 2016/3 (N° 75), p. 125-136.
	Un Living Lab est un laboratoire d'innovation ouverte. L'utilisateur est placé au centre du dispositif afin d'imaginer, développer et créer des services ou des outils innovants qui répondent aux espérances et nécessités de	A Living Lab is an open innovation laboratory. The user is placed at the center of the process to imagine, develop, and create services or innovative tools that meet the expectations and needs of everyone. Living Labs contribute to the emergence of a new innovation system	**AUTONOM'LAB**, Pôle régional d'innovation en santé et autonomie des personnes en région Limousin www.autonom-lab.com

	tout un chacun. Les Living Labs participent donc à l'arrivée d'un nouveau système d'innovation où les personnes ne sont plus de simples utilisateurs mais deviennent acteurs et collaborateurs.	where individuals are no longer just users but also become actors and collaborators.	
University of Jena (Germany)	Als Reallabor wird eine neuartige Form der Kooperation zwischen Wissenschaft und Zivilgesellschaft bezeichnet, die das gegenseitige Lernen in einem experimentellen Umfeld ermöglicht. Über seine klassische natur- und ingenieurwissenschaftliche Bedeutung hinaus wird der Begriff des Labors auf einen sozialen Kontext erweitert, da die Wissenschaft Lösungen auf wichtige Zukunftsfragen – vor allem im Bereich einer nachhaltigen Entwicklung - nur noch zusammen mit der Gesellschaft erarbeiten kann. Obwohl die Validität des gewonnenen Wissens nur schwer zu beurteilen ist, wird dennoch erwartet, dass die über Reallabore entwickelten wissenschaftlichen Erkenntnisse von Politik und Wirtschaft antizipiert werden.	The term "real laboratory" refers to a novel form of cooperation between science and civil society that enables mutual learning in an experimental environment. Beyond its classical meaning in the natural sciences and engineering, the concept of the laboratory is being of the laboratory is extended to a social context, since science can only work out solutions to important future questions - especially in the field of sustainable development - together with society. Although the validity of the knowledge gained is difficult to assess, it is nevertheless expected that the scientific knowledge developed via real laboratories will be anticipated by politics and industry.	German Parliament „Bundestag" https://www.bundestag.de/resource/blob/550742/8f269b6399b3098eabf9d5b09f31f88f/wd-8-017-18-pdf-data.pdf
	Sowohl in der unternehmerischen Praxis, in der Forschung als auch in der Stadtentwicklung wird zunehmend auf Methoden von Open Innovation, partizipative Formate und Ko-Kreation gesetzt. Dabei sind Reallabore ein	Both in entrepreneurial practice, in research and in urban development, increasing emphasis is being placed on methods of open innovation, participatory formats and co-creation. In this context, reallabs are an important format for shaping innovations in an open process: They	Fraunhofer research institute https://www.iao.fraunhofer.de/de/presse-und-medien/aktuelles/reallabore-die-innovationsmethode-der-zukunft.html

	wichtiges Format, um Innovationen in einem offenen Prozess zu gestalten: Es sind Test- und Experimentierumgebungen, in denen neue Technologien, Produkte oder Services unter realen Einsatzbedingungen und unter Einbeziehung von potenziellen Nutzenden gleichzeitig getestet und entwickelt werden können. »Simulationen und Modelle greifen zu kurz, weil sie die Wechselwirkungen der Innovation und ihrer Umwelt nur unzureichend abbilden. Reallabore bieten eine Möglichkeit, die Innovation und ihre Wechselwirkungen mit Gesellschaft, Politik, Wirtschaft, Wissenschaft in einem klar definierten Umfeld zu untersuchen«, erläutert Dr. Bernd Bienzeisler, Leiter des Forschungszentrums KODIS am Fraunhofer IAO. Reallabore stellen somit einen vielversprechenden und vieldiskutierten Ansatz für die Neugestaltung und Beschleunigung von Innovationsprozessen dar.	are test and experiment environments in which new technologies, products or services can be tested and developed simultaneously under real operating conditions and with the involvement of potential users. "Simulations and models fall short because they do not adequately represent the interactions of the innovation and its environment. Real laboratories offer an opportunity to examine the innovation and its interactions with society, politics, business, science in a clearly defined environment," explains Dr. Bernd Bienzeisler, head of the KODIS research center at Fraunhofer IAO. Real labs thus represent a promising and much-discussed approach for redesigning and accelerating innovation processes.	
	Living Labs werden im Allgemeinen als eine Infrastruktur verstanden, die eine Nutzer-zentrierte Forschungsmethodik ermöglicht und begünstigt (Eriksson et al. 2005). Der Living Lab-Ansatz umfasst nach einem allgemeinen Verständnis eine	Living labs are generally understood as an infrastructure that enables and fosters a user-centered research methodology (Eriksson et al. 2005). According to a general understanding, the Living Lab approach comprises a user-centered, real-world research environment in	Fraunhofer research institute https://www.isi.fraunhofer.de/content/dam/isi/dokumente/ccv/2015/INNOLAB_9_Living-Lab-Definition.pdf

	nutzergerechte, realweltliche Forschungsumgebung, in der nicht nur Wissenschaft, Wirtschaft und Organisationen gemeinsam Forschung und Entwicklung betreiben, sondern vor allem der Nutzer selbst eine aktive Rolle innerhalb der Innovationsprozesse übernimmt (Følstad 2008, Niitamo et al. 2006).	which not only science, industry and organizations jointly conduct research and development, but above all the users themselves take an active role within the innovation processes (Følstad 2008, Niitamo et al. 2006).	
	Reallabore als Testräume für Innovation und Regulierung machen es möglich, unter realen Bedingungen innovative Technologien, Produkte, Dienstleistungen oder Ansätze zu erproben, die mit dem bestehenden Rechts- und Regulierungsrahmen nur bedingt vereinbar sind. Die Ergebnisse solcher zeitlich und oft räumlich begrenzten Experimentierräumen bieten die Grundlage dafür, den Rechtsrahmen evidenzbasiert weiterzuentwickeln. Experimentierklauseln sind häufig die rechtliche Grundlage.	Regulatory sandboxes enable in a real-life environment the testing of innovative technologies, products, services or approaches, which are not fully compliant with the existing legal and regulatory framework. They are operated for a limited time and in a limited part of a sector or area. The purpose of regulatory sandboxes is to learn about the opportunities and risks that a particular innovation carries and to develop the right regulatory environment to accommodate it. Experimentation clauses are often the legal basis for regulatory sandboxes.	FEDERAL MINISTRY FOR ECONOMIC AFFAIRS AND CLIMATE ACTION https://www.bmwk.de/Redaktion/DE/Dossier/reallabore-testraeume-fuer-innovation-und-regulierung.html
	Das Innovation Living Lab ermöglicht die kooperative Forschung in einer realitätsnahen Umgebung, im Rahmen eines gegenseitigen Wissensaustausches von Experten/innen aus der Industrie/Wirtschaft sowie Wissenschaft. Unter Einbeziehung der Sichtweisen aller	The Innovation Living Lab enables cooperative research in a realistic environment, within the framework of a mutual exchange of knowledge between experts from industry/business and science. The aim is to identify, analyze, design, demonstrate and prototype solutions to complex problems, taking into account the	**Ernst-Abbe-Hochschule** Jena University of Applied Sciences https://www.eah-jena.de/bw/studium/labore/innovation-living-lab

	Akteure sollen Lösungsansätze komplexer Problemstellungen identifiziert, analysiert, gestaltet, demonstriert bzw. prototypisch umgesetzt werden. Die globale Zielstellung ist eine Lern-und Experimentierumgebung für Studierende, Wissenschaftler/innen und Anwender/innen aus der Praxis zu schaffen.	views of all stakeholders. The global objective is to create a learning and experimentation environment for students, scientists and users from practice.	
University of Salamanca (Spain)		There is no agreed definition because they are relatively new entities and the inclusion of the entity in the "living lab" concept usually depends on the decision of the researcher or group of researchers launching the project. The reason why there is no agreed definition is that the living lab concept actually integrates a methodology, a concept and a space in which it is intended to create an open innovation environment where researchers and users come together to experiment with a wide range of content and topics. Citizen participation is indeed a key element of the process.	1) **Fablab** is a digital creation and fabrication laboratory focused on the prototyping of objects with digital technologies and open to the entire university community. https://fablab.usal.es/ 2) **Medialab** focuses on new ways of learning, fostering creativity and experimenting with digital technologies to promote social innovation. https://medialab.usal.es/
University of Turku (Finland)		"A research and development laboratory utilizing multidisciplinary technological solutions."	1) **Flavoria multidiscipilary research platform** -a multidisciplinary research platform and, at the same time, a unique lunch restaurant, café, and snack shop. The research conducted in Flavoria focuses on producing new scientific knowledge and consumer understanding for the sustainable

			development of both society and businesses https://www.flavoria.fi/en/front-page/ 2) **Entrepreneurial Hub Konttori** - introduced as a working space for students and staff. https://www.utu.fi/en/news/press-release/university-community-receives-entrepreneurial-hub-konttori-on-hameenkatu-street
University of Pavia (Italy)		"A new model of interaction between the academy and the professional world and a new way of thinking the role of science and scientists within the society."	**Neuroscience and Society Lab**-Promotes outreach activities, public engagement and mutual learning workshop among different stakeholders." https://www.cfnns.it/the-labs/neuroscience-and-society-lab/
University of Coimbra (Portugal)	Zonas Livres Tecnológicas (ZLT)	«ZLT», means a physical environment, geographically located, in a real or quasi-real environment, for testing and experimenting with innovative technology-based technologies, products, services and processes, with direct and permanent monitoring by the competent entities, namely in terms of testing, provision of information, guidelines and recommendations, corresponding to the concept of a regulatory sandbox.	Decree-Law 67/2021, of 30 July
		They provide a "safe space" in which companies can test innovative products, services, business models and delivery mechanisms without immediately incurring all the normal regulatory consequences related to the activity in question.	https://portugaldigital.gov.pt/acelerar-a-transicao-digital-em-portugal/testar-e-incorporar-nova-tecnologia/zonas-livres-tecnologicas-zlt/

| | | Zonas Livres Tecnológicas (ZLT) consist of physical environments, geographically located, in a real or quasi-real environment, used for testing and experimentation (support and monitoring of the respective competent entities) arising from:
- development of new technologies and solutions.
- innovative technology-based products, services and processes.

- cross-cutting and integrated models (i.e., that cross more than one sector and may therefore be subject to different regulations and regulators). | https://www.ani.pt/pt/valorizacao-do-conhecimento/interface/zonas-livres-tecnol%C3%B3gicas/ |
| | | | 1) **ZLT Matosinhos (CEiiA)** focus on developing, implementing and operating "technological solutions alongside our partners to push innovation in aeronautics, mobility, naval/offshore and automotive", https://www.ceiia.com/ 2) **ZLT Infante D. Henrique** focus on testing "unmanned security and defence systems and other technologies in subsurface, surface (land and wet) and airborne environments.", https://business-it.pt/2022/07/19/zona-livre-tecnologica-infante-d-henrique-vai-promover-a-inovacao-na-marinha-e-em-portugal/ |