

InRoad Consultation on National Research Infrastructure Policies in EU Member States and Associated Countries

Glossary of common terminology with references

| Term | Definition |
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| Annual Full Cost | The full cost is a method for calculating, on an annual basis, the cost price of a product. In the case of the research infrastructures, the annual full cost calculation includes investment costs (construction investments, purchase of equipment, depreciation, decommissioning), functioning costs (operating of the equipment and of the facilities) and personnel costs (French MESRI own elaboration 2017 for InRoad). |
| Access | Access refers to the legitimate and authorised physical, remote and virtual admission to, interactions with and use of research infrastructures and to services offered by research infrastructures to users. Such access can be granted, amongst others, to machine time, computing resources, software, data, data-communication services, trust and authentication services, sample preparation, archives, collections, the set-up, execution and dismantling of experiments, education and training, expert support and analytical services (European Commission 2016). |
| Access policy | An access policy defines how an RI regulates, grants and supports access to (potential) users from academia, business, industry and public services. The access policy of a research infrastructure should define the access in terms of access units, state the specific access mode, clarify the conditions for access, describe the processes and interactions involved in the access and elaborate on the support measures facilitating the access, if existing (Adapted from European Commission 2016 for InRoad). |
| Access unit | The access unit is a measure specifying the access offered to the users. Research infrastructures are responsible for the definition of access units, which may vary from e.g. precise values like hours or sessions of beam time processing time, to gigabytes transmitted for the conduction of complex experiments and projects up to quotations based on an inventory of Users' needs (European Commission 2016). |
| Benchmarking | Standards by which the performance of an intervention can be assessed in a non-arbitrary fashion. Such a standard will often be the best in the same domain of intervention or in a related domain (Adapted from European Commission 2013 for InRoad). |





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| Bibliometrics | A discipline using statistical analysis of scientific literature (including articles, books, patents and other publications) to elaborate indicators and indices measuring the production (outputs), the impact (citations) or the collaboration extent (co-authorship) of researchers, research groups, institutions, etc. (Innovatec own elaboration 2017 for InRoad). |
| Budget | Annual financial plan drawn up according to budgetary principles, which provides forecasts and authorises an estimate of future costs and revenue and expenditures, with detailed descriptions and justifications (the latter in 'budgetary remarks') (European Commission 2017f). |
| Business case | A documented rationale justifying the feasibility of a specific RI. It includes a description of the physical infrastructure, the plans for services and access, the legal and governance structure and the expectation of return on investment, for example, as socio-economic impact (Adapted from ISBE Project 2016 for InRoad). |
| Business model | Abstract representation of an organisation, which includes all core interrelated architectural, co-operational and financial arrangements designed and developed by an organisation (presently and in the future), as well as core products or services the organisation offers or will offer to achieve its strategic goals. (OECD 2017) |
| Business plan | Concrete, operational and budgeted translation of the business model. Formal document which should describe the organisation strategy and vision, how the business model will be implemented, and expectations regarding the development of the organisation's activities and finances. (OECD 2017) |
| Case study | A technique involving the examination of a limited number of specific cases which the evaluator anticipates will be revealing about the programme as a whole (Adapted from European Commission 2013 for InRoad). |
| Consultation | Participative process where a target group of people is invited and encouraged to give their comments and suggestions on topics of their interest or concerning them (Adapted from Wikimedia Foundation 2017 for InRoad). |
| Cost-benefit analysis | Tool for judging the advantages of an intervention (i.e. RI construction and implementation) from the point of view of all the groups concerned, and on the basis of a monetary value attributed to all the positive and negative consequences of the intervention (Adapted from European Commission 2013 for InRoad). |
| Data management strategy | A data management strategy is the process of planning or creating strategies/plans for handling the data created, stored, managed and processed by an organisation. It is an IT governance process that aims to create and implement a well-planned approach in managing an organisation's data assets (Adapted from Janalta 2017 for InRoad). |





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| Decommissioning | Activities that result in the termination of all RI operations (Adapted from ESFRI 2016b for InRoad). |
| Econometrics | A field of economics that applies mathematical statistics and the tools of statistical inference to the empirical measurement of relationships postulated by economic theory (Adapted from Wikimedia Foundation 2017 for InRoad). |
| Distributed research infrastructure | A distributed facility is a research infrastructure with a common legal form and a single management board responsible for the whole RI, and with a governance structure including among others a Strategy and Development Plan and one access point for users although its research facilities have multiple sites (CoPoRI 2014b). |
| Eligibility conditions | Prerequisites (minimum conditions) required of any RI prior to their assessment for being included in the national RI roadmap (Adapted from European Commission 2017e for InRoad). |
| European Structural and Investment Funds (ESIF) | ESIF refers to: European Regional Development Fund (ERDF), Cohesion Fund, European Social Fund (ESF), European Agricultural Fund for Rural Development (EAFRD) and European Maritime and Fisheries Fund (EMFF) (Adapted from European Commission 2015 for InRoad). |
| Ex ante evaluation | Evaluation procedure based on forecasts rather than actual results. Ex-ante evaluation is considered necessary for a robust decision-making process leading to the setting up of a new infrastructure, and for major upgrades or reorientation of existing RI (ESFRI 2011). |
| Ex post evaluation | Evaluation procedure based on actual results/facts rather than forecasts. Ex-post evaluation is used to demonstrate the quality of the research output and achievements, to account for the resources invested and to monitor value for money and cost effectiveness, including appropriate management of the RI (ESFRI 2011). |
| Expert panel | A technique which relies on the views of experts in a particular field. The panels are typically groups of elite individuals assessing the quality, relevance and potential impact of an RI (Adapted from European Commission 2013 for InRoad). |
| Financial plan | A financial plan includes information about the economic viability of the RI. It would normally address three main elements: i) the proposed overall budget for the infrastructure; ii) a description of the sources from which RI activities will be funded (for example, ESIFs together with regional/national public co-funding) and iii) the financial tables for the RI profiling the expected expenditure from all sources over the full period of the programme (Adapted from European Commission 2017c for InRoad). |





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| Foresight | Foresight covers different activities aimed at thinking, debating and shaping the future using a variety of tools which includes, forecasting, technology assessment/surveillance, future studies, participative debate among experts and stakeholders, etc. The main goal is to guide decision making processes by addressing different strategies for imagining possible futures, defining potential scenarios and identifying risks and opportunities of actions to be conducted (Adapted from European Commission 2010a for InRoad). |
| Full time cost | This is the overall cost of the whole life cycle of a Research Infrastructure. It covers those costs derived from design, planning, implementation, running and even decommissioning of the facility (Innovatec own elaboration 2017 for InRoad). |
| Funding body | A body or authority in charge of budget implementation tasks (Adapted from European Commission 2013, 2017e for InRoad). |
| Governance | The 'Governance' of RI corresponds to the sets of institutional structures, principles, rules and procedures through which the interests of the various stakeholders as well as the lines of authority, responsibility, and accountability between them find their expression (ESFRI 2012). |
| Impact | A general term used to describe the effects of an intervention on society. Impacts can be either positive or negative and foreseen or unforeseen. The term is sometimes also used to mean longer term results (Adapted from European Commission 2013 for InRoad). |
| In house research | In house research consists of research programs carried out at the initiative of the facility in order to enhance the quality of the services it provides. This research, which must be carried out with independent funding, may be of a strictly technological nature as well as fundamental. It is often carried out by the facility's staff in order to maintain their welcome's skills and their dialogue's capability with the users (French MESRI own elaboration 2017 for InRoad). |
| In-kind resources or in-kind contributions | Conversely to cash contributions, in-kind contributions represent the provision of goods or services to an organisation by one of its members. An in-kind contribution can consist either of the direct provision of a tangible asset to the infrastructure or of expenditure incurred directly by the contributor, which benefits the infrastructure and satisfies its objections. They include goods, use of services and facilities, professional services or expertise in the form of staff time, provision of or access to equipment, special materials (Adapted from CoPoRI 2014a for InRoad). |
| In-kind resources valorisation | In-kind resources are valued in monetary terms according to rules agreed upon beforehand by the members of the organisation in the statutes or bylaws, and accounted for as part of the member's contribution to the budget (Adapted from CoPoRI 2014a for InRoad). |





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| Indicator | An indicator is an objectively verifiable measurement which reflects the activity, assumption, or effect being measured (Adapted from European Commission 2013 for InRoad) |
| Intellectual property right | A right that is had by a person or by a company to have exclusive rights to use its own plans, ideas, or other intangible assets without the worry of competition, at least for a specific period of time. These rights can include copyrights, patents, trademarks, and trade secrets. These rights may be enforced by a court via a lawsuit. The reasoning for intellectual property is to encourage innovation without the fear that a competitor will steal the idea and / or take the credit for it. (Adapted from WebFinance 2017 for InRoad). |
| Intervention | Any action or operation carried out by public or private authorities regardless of its nature (policy, programme, measure or project) (European Commission 2013). |
| Key Performance Indicator (KPI) | Metric that is used to track the performance, effectiveness or efficiency of a service or process. KPIs are generally important metrics that will be aligned to critical success players and important goals. KPIs are therefore a subset of all possible indicators, intended to allow for monitoring [see also indicator] (Adapted from European Commission 2017d for InRoad). |
| Landscape analysis | Comparative analysis aimed at assessing a RI within its competitive ecosystem. This typically includes an analysis of strategies through strengths and weaknesses, outputs and services, and growth models. It can include many different pieces of information, such as the main services to be provided or the economic return (Adapted from IAC Publishing 2017 for InRoad). |
| Legal framework | The legal framework consists of a broad system of rules that governs and regulates decision making, agreements, internal laws, etc. which has been selected by the facility's partners for enabling the management and ensuring the legal representation of the facility in all its relationships with external stakeholders (French MESRI own elaboration 2017 for InRoad). |
| Life-cycle | The life-cycle of a research infrastructure consists of different phases which are each characterised by specific funding and decision processes. According to the definition proposed by the G7 Group of Senior Officials on research infrastructures, five RI life-cycle stages are identified: <ol style="list-style-type: none">1. Development Stage2. Design Stage3. Implementation Stage4. Operations Stage5. Termination Stage (OECD 2017) |





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| Management structure | The management structure refers to the organisation of the hierarchy of authority, which defines accountability and communication channels within an organisation and with its external environment. Each organisation has its unique management structure based on its operations, but the common denominator present in every organisation's management structure is that it defines the flow of responsibility within an organisation. It also defines who is responsible for each role in an organization (Adapted from IAC Publishing 2017 for InRoad). |
| Management system | Entirety of policies, processes, procedures and related resources and capabilities aimed at effectively performing management tasks in a given context and for a given subject (EGI 2016). |
| Monitoring | The continuous process of examining the performance of RI including the delivery of outputs and supply of services to intended beneficiaries. It is carried out during the lifecycle of RI with the intention of correcting any deviation from operational objectives [ESFRI sometimes uses the term "interim evaluation" instead of monitoring] (ESFRI 2011). |
| Open access | The practice of providing on-line access to scientific information that is free of charge to the user and that is re-usable. In the context of R&D, open access to 'scientific information' refers to two main categories: <ul style="list-style-type: none">• Peer-reviewed scientific publications (primarily research articles published in academic journals)• Scientific research data: data underlying publications and/or other data (such as curated but unpublished datasets or raw data) (European Commission 2017b) |
| Operational costs | Operational costs are also known as running costs and refer to day-to-day costs of operations derived from running RI services. They include personnel costs, equipment maintenance cost, consumables, etc. (Adapted from Wikimedia Foundation 2017 for InRoad). |
| Organisational level funding | Organisational level funding is defined as "the total of national budgets in a given country, attributed to a RPO, with no direct selection of a R&D project or programmes and for which money the organisation has more or less freedom to define the research activities to be performed" (Van Steen 2012). Organisational level funding can be allocated in the form of non-competitive block funding. To a large extent this block funding may be earmarked for particular expenditures such as infrastructure. Organisational level funding may also be allocated in a variable/competitive manner e.g. to ex-post assessments of the output and performance of universities (Cruz Castro et al 2010). *Both definitions are taken from Jonkers and Zacharewicz (2016) . |
| Peer review | The process whereby peers (stakeholders of equivalent position / practice area) review projects, policies or practices [see also expert panel] (Adapted from European Commission 2013 for InRoad). |



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| Policy | A policy is typically described as a plan of action to guide decisions and achieve rational outcome(s). The term can be used in different settings: government, private sector organisations and groups, and individuals (Adapted from European Commission 2013 for InRoad). |
| Priority setting | Priority setting refers to the process of deciding which needs should be met and which needs cannot be met, at least not immediately (Nayak 2012). |
| Purchasing policy | The purchasing policy involves the procurement of goods and services that meet community needs at the lowest possible cost consistent with the quality needed for the proper operation of the various departments. (Centenary University 2017). |
| Procurement | Procurement is a structured procedure designed to consult the market for the purchase of goods and services. A procurement procedure leads to the conclusion of a public contract. The purpose of a procurement procedure is threefold: <ul style="list-style-type: none"> • To guarantee the widest possible participation of economic operators; • To ensure the transparency of operations; and • To obtain the desired quality of services, supplies and works at the best possible price. (Eurojust 2017) |
| Programme | Organised set of financial, organisational and human interventions mobilized to achieve an objective or set of objectives in a given period. A programme is delimited in terms of a timescale and budget (European Commission 2013). |
| Project funding | Project funding is defined as "the total of national budgets in a given country, attributed to a group or an individual to perform a R&D activity limited in scope, budget and time, normally on the basis of the submission of a project proposal describing the research activities to be done." (Van Steen 2012) Definition is taken from Jonkers and Zacharewicz (2016). |
| Research infrastructure | Facilities, resources and services that are used by the research communities to conduct research and foster innovation in their fields. They include major scientific equipment (or sets of instruments), knowledge-based resources such as collections, archives or scientific data and e-infrastructures such as data and computing systems and communication networks. Such infrastructures may be "single-sited", "virtual" or "distributed" (European Commission 2010b , ESFRI 2011). |
| RI lifecycle | The lifecycle of an RI includes concept development, design, preparation, implementation, operation and decommissioning (termination) (ESFRI 2016a , 2016b) |

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| <p>Risk analysis</p> | <p>The risk analysis is a component of risk management which consists of:</p> <ul style="list-style-type: none"> • identification of possible negative external and internal conditions, events, or situations, • determination of cause-and-effect (causal) relationships between probable happenings, their magnitude, and likely outcomes, • evaluation of various outcomes under different assumptions, and under different probabilities that each outcome will take place, • application of qualitative and quantitative techniques to reduce uncertainty of the outcomes and associated costs, liabilities, or losses. <p>(Adapted from WebFinance 2017 for InRoad).</p> |
| <p>Roadmap</p> | <p>A specialized type of strategic plan that outlines activities an organisation can undertake over specified timeframes to achieve stated goals and outcomes (International Energy Agency 2014).</p> |
| <p>Roadmapping</p> | <p>The evolving process by which a roadmap is created, implemented, monitored and updated as necessary (International Energy Agency 2014).</p> |
| <p>Scenario building</p> | <p>A scenario is a "story" illustrating visions of possible future or aspects of possible future. Scenarios are not predictions about the future but are similar to simulations of some possible futures (European Commission 2007).</p> |
| <p>Science and technology policy</p> | <p>The group of regulations and the legal provisions that a State adopts for promoting scientific and technological research (Innovatec own elaboration 2017 in the context of InRoad).</p> |
| <p>Scientific case</p> | <p>A documented rationale justifying the scientific merit, relevance, impact and added value (at regional/national/European/international level) of a specific RI (Adapted from ESFRI 2016b for InRoad).</p> |
| <p>Single-sited research infrastructure</p> | <p>A research infrastructure located in a unique place (European Commission 2017a).</p> |
| <p>Social impact</p> | <p>The social impact of a specified human activity is the intrinsic set of its direct and indirect consequences on the human kind in terms of economy and human resource capacity including all factors susceptible to influence our day-to-day life on short term as well as on a longer term (Technopolis Group 2015).</p> |
| <p>Spin-off</p> | <p>A company funded with the aim of commercially exploiting relevant research results (Innovatec own elaboration 2017 in the context of InRoad).</p> |
| <p>Stakeholder</p> | <p>A person, group or organisation directly or indirectly associated with or affected by the implementation of a policy intervention (Adapted from European Commission 2013 for InRoad).</p> |
| <p>Sustainability</p> | <p>The definition of an RI sustainability is understood as the capacity for a research infrastructure to remain operative, effective and competitive over its expected lifetime (OECD 2017).</p> |



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| Total cost of ownership | The total cost of ownership (TCO) is an analysis meant to uncover all the lifetime costs that follow from owning certain kinds of assets. As a result, TCO is sometimes called life cycle cost analysis (Adapted from Schmidt 2017 for InRoad). |
| User | Users of research infrastructures can be individuals, teams and institutions from academia, business, industry and public services. They are engaged in the conception or creation of new knowledge, products, processes, methods and systems and also in the management of projects. Teams can include researchers, doctoral candidates, technical staff and students participating in research in the framework of their studies (European Commission 2016). |
| Value for money | Term referring to the judgment on whether sufficient impact is being achieved for the money spent (European Commission 2013). |



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