

Annex 8: Indicators for the ERA Dashboard¹ [*red': added compared to Tender Specifications-NEW*]

No.	Recommended indicators for the ERA Dashboard (MS level)	Data source	Metrics	Additional Information
1	Gross Domestic Expenditure on R&D (GERD) as a percentage of GDP	Eurostat	%	
2	Government Budget Allocations for R&D (GBARD) as share of GDP	Eurostat	%	
3	Researchers (in full-time equivalent) per million inhabitants	Eurostat	No.	
4	Business Enterprise expenditure on R&D (BERD) as a percentage of GDP	Eurostat	%	
5	<i>Expenditure on R&D procurement as a percentage of GDP</i>	<i>EC/European Innovation Procurement Observatory</i>	<i>%</i>	<i>Total country expenditure on public procurement of R&D services</i>
Deepening a truly functioning internal market for knowledge				
a) Open Science				
6	Share of publications available in open access	OpenAIRE	%	EOSC Observatory https://eoscobservatory.eosc-portal.eu/home
7	<i>Number of open-access research datasets by country</i>	<i>OpenAIRE</i>	<i>No.</i>	
8	<i>Number of repositories by country</i>	<i>EOSC Observatory or re3data.org</i>	<i>No.</i>	
9	<i>Country investments in EOSC and Open Science (in ranges of investment²)</i>	<i>EOSC Observatory</i>	<i>€</i>	<i>The Survey on National Contributions to EOSC used for this indicator is in its initial stage, which means that some of the data may not yet be stable; data is presented in ranges of investment rather than the total amount of investment; the indicator covers only 25 countries</i>
b) Research infrastructures				

¹ In addition to this list of Dashboard indicators, the Contracting Authority will provide to the contractor with about 20 additional indicators for the ERA Dashboard at the start of the contract.

² Five ranges of investment: < 1 M; 1 - 5 M; 5 - 10 M; 10 – 20; > 20 M. Total amount of financial investments in EOSC and Open Science in 2021 (in millions of Euros) is available only in aggregated (countries combined) presentation.

No.	Recommended indicators for the ERA Dashboard (MS level)	Data source	Metrics	Additional Information
10	Share of national public R&D expenditure committed to European research infrastructures	ESFRI	%	
11	Number of European research infrastructures in which a Member State or an Associated Country participates (financially contributes to operations).	ESFRI	No.	
c) Gender equality, equal opportunities for all and inclusiveness				
12	Share of women in grade A positions in HEIs	Women in Science	%	
13	Proportion of papers with mixed gender authorship, 2000–2020	Science-Metrix using the Scopus database (Elsevier) and NamSor	%	
14	Proportion of women in authorships of the top 10% most cited publications, 2000–2018	Science-Metrix using the Scopus database (Elsevier) and NamSor	%	
15	Women in Digital Index	Eurostat	Score	
16	Proportion (%) of women among doctoral graduates by narrow fields of Science, Technology, Engineering and Mathematics (STEM)	Eurostat	%	
d) Researchers' careers and mobility and research assessment and reward systems				
17	Share of foreign doctorate students as a percentage of all doctorate students	Eurostat	%	
18	New doctorate graduates per 1,000 inhabitants aged 25-34	Eurostat	No.	
19	Job-to-job mobility of Human Resources in Science and Technology	Eurostat	%	
(e) Knowledge valorisation				
20	Share of public-private co-publications	Bibliometrics and Eurostat	%	
21	Best practice examples and methodologies for knowledge valorisation	Knowledge Valorisation Platform		
22	Number of PCT patent applications divided by GDP in million Euros	OECD	No.	
23	Share of innovating firms collaborating with higher education institutions or public/private research institutions	OECD	%	
24	Business enterprise researchers as % of national, total	OECD Main STI	%	
25	Business enterprise researchers in full-time equivalent per thousand employment in industry	OECD Main STI	No.	
26	Patents by universities and public research organisations	EPO	No.	
(f) Scientific leadership				
27	Number of scientific publications among the top-10% most cited publications worldwide as a percentage of all publications	EC (Web of Science / Scopus)	%	
28	Academic Freedom Index (AFI)	https://www.v-dem.net/vdemds.html	Score	
29	Average ranking score of top 10 universities by country and year	QS World University Rankings		
30	Sum of ERC grants received by country in a given year per 1,000 R&D personnel (in FTEs)	ERC, Eurostat	€	
(g) Global engagement				
31	International co-publications with non-EU partners per 1,000 researchers in the public sector	Science-Metrix and Scopus	%	

No.	Recommended indicators for the ERA Dashboard (MS level)	Data source	Metrics	Additional Information
32	Share of patents with foreign co-inventors	OECD	%	
33	European and international co-patenting in EPO applications at national and EU level (pat_epo_cop)	Eurostat	No.	Data for this indicator is available only until 2013 and Eurostat is no longer updating it
Taking up together the green transition and digital transformation and other challenges with impact on society, and increasing society's participation in the ERA				
(h) Challenge-based ERA actions				
34	Government budget allocations for R&D (GBARD) according to NABS as share of total GBARD	Eurostat	%	
35	R&I investments (transnational cooperation): GBARD (EUR) allocated to Europewide transnational, bilateral or multilateral, public R&D programmes per FTE researcher in the public sector	Eurostat	€	
36	Environmentally related government R&D budget, percentage of total government R&D	OECD (Green Growth Indicators Database)	%	https://stats.oecd.org/Index.aspx?DataSetCode=GREEN_GROWTH
37	National public and private investments as suggested in the SET Plan progress report 2021. SETIS monitoring platform to link with.	SETIS research and innovation data		
38	Patents on environmental technology	OECD		https://data.oecd.org/envpolicy/patents-on-environment-technologies.htm
(i) Synergies with education and the European Skills Agenda				
39	Share of products and/or processes by innovative firms cooperating with higher education institutions or public/private research institutions	Eurostat (STI Database from Eurostat)	%	
40	Purchased or licensed-in patents or other IPRs from public research organisations, universities or higher education institutions	Eurostat CIS		
(j) Synergies with sectorial policies and industrial policy, in order to boost innovation ecosystems				
41	Direct government support plus indirect government support through R&D tax incentives as a percentage of GDP	Eurostat		
42	Green bond issuance as a percentage of total bond issuance	EEA	%	
(k) An active citizen and societal engagement in R&I in all its dimensions				
43	Trust in science	EUROBAROMETER		
Enhancing access to research and innovation excellence across the Union and enhancing interconnections between innovation ecosystems across the Union				
(l) More investments and reforms in countries and regions with lower R&I performance				
44	Increase in total R&D expenditure in Widening countries expressed as a percentage of GDP	Eurostat	%	
45	Number of participations in Horizon Europe (of Widening countries) measured in terms of 1,000 R&D personnel (in FTEs)	Eurostat, FFG's EU Performance Monitor	No.	

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46	Sum of Horizon Europe grants received by (Widening) country in a given year measured in terms of 1,000 R&D personnel (in FTEs)	CORDIS , Eurostat	€	
47	Summary Innovation Index (Widening countries)	European Innovation Scoreboard		
(m) Synergies between Union, national and regional funding programmes				
48	Share of enterprises using public funds from different governance levels (local or regional, national, and EU) for R&I activities	Eurostat CIS	%	
49	Number of Seal of Excellence projects published on the InvestEU Portal that have received funding per 1,000 R&D personnel (in FTEs)	InvestEU Portal , Eurostat	No.	
(n) Increased collaborative links and the excellence-based integration of research-performing organisations from countries and outermost regions with lower R&I performance into European scientific networks and innovation ecosystems, more balanced "brain circulation" within the ERA, appropriate skills and training for enhancing access to excellence				
50	Number of collaboration networks of RPOs in Widening countries with other EU countries	CORDIS Datalab	No.	https://cordis.europa.eu/datalab/datalab.php
51	Average number of partners from non-widening countries per institution from a Widening country participating in the Horizon programme each year	CORDIS	No.	
52	Share of patents registered by a Widening country together with partners from other EU countries	OECD	%	
53	Share of enterprises that cooperated with RPOs located in other countries	Eurostat CIS	%	
Advancing concerted research and innovation investments and reforms				
(p) Support to prioritise and secure long-term R&I investments and policy reforms				
54	Share of public R&D expenditures financed by the private sector	Eurostat	%	
(o) Coordination of R&I investments				
55	Government budget allocations for R&D (GBARD) allocated to Europe-wide transnational, as well as bilateral or multilateral, public R&D programmes per FTE researcher	Eurostat	€	