METHODOLOGY										ASSES			
Pillar	**Group of indicators**	**#**	**Indicators**	**Description**	**0 - initial**	**1 - basic**	**2 - intermediate**	**3 - advanced**	**4 - optimised**	**Data sources used (dropdown)**	**Details on sources**	**Identified gaps**	**National experts: Academia (names, input)**
I. STAKEHOLDERS ECOSYSTEM	**Government and Institutions**	1	**Governance**	Maturity and strength of the governance model at country level	Unspecified governance model.	Formally designated authority.	Formally designated authority, with geospatial departments present in in other ministries as well	Clear agenda is implemented between authority and ministries-without international involvement and impact.	Clear agenda is implemented between authority and ministries - with international involvement and impact.				
		2	**Public Service Bodies**	Number of entities at national, regional, local level using or producing EO data	Less than 5.	6 - 20	21-50	51- 100	Over 100.				
		3	**Staff**	Employment numbers of people working on EO-tasks in governmental agencies and associated institutions	Less than 25.	26-200	201- 500	501- 1000	Over 1000.				
		4	**Budget**	Volume of annual investment in EO-related activities (upstream, downstream, mid)	Less than EUR 10 M	EUR 10-50M	EUR 50-100 M	EUR 100-300 M	Over EUR 300 M				
	Industry	5	**Companies (number)**	Number of companies active in acquiring and supplying EO data and/or delivering geo-information services/products suitable	No private companies in the EO domain [no companies on EO]	1-5 companies in the country serving any category in the EO value chain [between 1-5 companies]	6-25 companies serving at least 3 categories covering the EO value chain [between 6-25 companies]	26-50 companies serving at least 3 categories covering the EO value chain [between 26-50 companies]	Over 50 companies representing all the categories covering the EO value chain. [> 51 companies]				
		6	**Companies (scale)**	Composition of industry base with regards to company size:(micro <10, small<50, medium <250)	[no comparable]	Micro companies only	Micro and small companies	Micro, small and medium companies [SMEs]	All types of companies spread all over the country. Note: usually the EO companies are the small size ones. They have around 2-10 employees [all types industry]				
		7	**Companies (employment)**	Estimated total employment among industry	Private sector employment up to 10 employees [up to 10 employees]	Private workforce between 10-50 employees. Note: usually the EO companies are the small size ones. They have around 2-10 employees/company [10-50 employees]	Private task force between 51-150 employees [51-150 employees]	Private task force between 151-300 employees [151-300 employees]	Private task force more than 300 employees [>300 employees]				
		8	**Resellers**	Percentage of companies who operate only as resellers of international companies	Only resellers, not companies members of international specialised groups [only resellers]	Over 60% resellers	Between 60% and 30% and resellers	Between 30% and 10% resellers.	Less then 10% resellers only				
		9	**Sales**	Volume of sales (as documented in their annual revenues) by companies incorporated in the country	Less than EUR 1 M	EUR 1-5 M	EUR 5-50 M	EUR 51-100 M	Over EUR 100 M.				
	Academia	10	**Researchers**	Number of researchers working on Earth Observation topics	No significant number of researches in the EO domain [no significant EO staff]	Less than 50 EO researchers	50-250 EO researchers	250-500 EO researchers	> 500 EO researchers				
		11	**Publications**	Number and impact of relevant scientific publications within the last 5 years (e.g.: indexed in Elsevier's Scopus and Compendex, publications in journals ranked in JRC among the top 30% of journals in the (G)EO field)	no papers published [no EO publications]	1-25 papers published at department level (from those at least 10 paper citations who have an impact factor)[1-25 papers]	25-100 papers published that will provide some excellence of the research resulting from national projects related to EO funded by Government or other EU funding (from those at least 25 paper citations who have an impact) [25-100 papers]	100-500 scientific papers (+ thesis research) produced by research organizations and universities on innovative topics (from those at least 50 paper citations who have an impact. [100-500 papers]	Over 500 between number of theses and scientific papers produced by research organizations and universities with impact in prestigious magazines or presented in high level conferences; [>500 papers]				
	Education and Skills	12	**University courses**	Dedicated or tightly linked to EO courses offered at university level	No specific EO courses.	Sporadic EO dedicated courses within various curricula.	Multiple EO dedicated courses within various curricula with proven impact and peer recognition	At least one EO dedicated recognised and renowned curriculum.	More than one EO dedicated recognised and renowned curricula.				
		13	**Training programmes**	Training programmes focussed on the development of EO-related skills	No known EO training programmes.	Rare instances of EO training programmes by local and international actors. (e.g. summer schools, seminars)	Sporadic EO training programmes by local actors.	Periodic EO training programmes by local and international actors.	Systematic (i.e. multiple annual) EO training programmes by local and international actors, serving coherent agenda (s)				
II. NATIONAL INFRASTRUCTURE	**Space component**	14	**Operation of own satellites**	If the country itself operates own satellite missions (public and private)	No missions, no technical readiness.	Technical readiness but no EO mission in course	At least one EO mission.	1-5 EO missions	> 5 EO missions				
		15	**Access to third party missions**	Not owned nor operated by the country. Either a satellite operator or 3rd party mission/ including meteo	No access to other missions [no access missions]	Access to less than 5 third party missions.	Access to 5-10 third party missions.	Access to 11-25 third party missions.	Access to over 25 third party missions.				
		16	**Ground-based facilities**	Number of stations.	No capacity for ground-based control elements of EO spacecraft system [no ground-based capacity]	1 ground station	2-5 ground stations	6-10 ground stations	>11 ground stations				
	In situ component	17	**In situ monitoring networks**	Number of in situ networks within the country or providing data to international networks.	0 in situ networks.	Up to 5 in situ networks.	Up to 10 in situ networks.	Up to 20 in situ networks.	Over 20 in situ networks.				
	Modelling and computing capacities	18	**Modelling**	Measuring both number and quality of models (i.e. models for atmospheric modelling, what those are, what is the status).	No modelling capacities	TBD	TBD	TBD	TBD OR internationally renowned/ standardized models have been developed within the country				
		19	**Computing**	Availability of computing processing capacities (high-performance computers: HPC), assessing who these belong to (i.e. total number of organizations with computing capacities) and how advanced they are.	No HPC [no computing capacities]	One institution with HPC facilities for their executions with multiprocessing systems and large external memory units. [one HPC]	Multiple computing resources for the processing and exploitation of EO data for one or more institutions. [between 2 to 10 modelling capacities]	TBD	TBD				
	Data exploitation infrastructure	20	**Data portals and gateways (dat**	Number of data portals originating from the country.	No data portals.	One generic data portal.	Up to 5 (including thematic ones).	Between 6 and 20 (including thematic ones-some serving different communities).	Over 20 (including thematic ones-some serving different communities).				
		21	**Data handling (incl. data cubes**	Tools for data-handling available through portals in the country	Raw data only. (level 0-1A*)	Capability to query and gather various types of data. (level 0-1B*)	Capability to query and gather various types of data and additional tools to ingest additional data. (level 2*)	Capability to do develop services on the portal. (level 2*)	Capability to do develop services on the portal. (level 2*). Data cubes available as well.				
		22	**Value-added services exploitati**	Number of existing VAS exploitation platforms (access to thematic products or services)	No existing platforms.	Up to 5 existing platforms.	6-15 existing platforms.	16-30 existing platforms.	Over 30 existing platforms.				
III. UPTAKE	**Public Sector Uptake**	23	**EO for policy making**	Exploitation of EO as a policy making and policy monitoring tool	EO not used for policy-making and po	One public service body using EO data for the monitoring status of policies.	2-5 public service bodies using EO data for the monitoring status of policies.	6-10 public service bodies using EO data for the monitoring status of policies.	Over 10 public service bodies using EO data for the monitoring status of policies. EO explicitly mentioned in legislation				
		24	**EO for operational public activi**	Use of EO in operational activities of governmental agencies (including local and regional, excl. policy)	EO not used for public operational activities.	At least two public service bodies using EO data for operational activities	5-10 public service bodies using EO data for operational activities	11-20 public service bodies using EO data for operational activities.	Over 20 public service bodies using EO data for operational activities.				
		25	**EO Data Sharing**	Level of adoption of data sharing practices	Not adopted	Intra-ministry	Inter-ministry	Data sharing between central and regional	Between any public and private				
	Awareness	26	**EO focussed events**	Occurrence of events allowing both awareness (for general audiences) and networking (for specialised audiences) around EO	No data for organised EO events.	Sporadic EO events without clear link or overall agenda.	EO events organised in a focused way to promote specific agendas.	One renowned (at least regionally) periodic EO event.	More than one renowned (at least regionally) periodic EO events.				
	Data Uptake	27	**Uptake of Copernicus data (or**	Volume of Copernicus/Sentinel (or equivalent) number of product downloads per year	Less than 1000 products.	Between 1000 and 10 000 products	Between 10k and 500k products	500k-1 million products	Over 1 million products.				
IV. PARTNERSHIPS	**Involvement in GEO**	28	**Financial Contribution**	Financial contribution to GEO or to projects/initiatives which are linked to GEOSS	0	<EUR 1k	EUR 1-25k	EUR 26-100k	Over EUR 100k				
		29	**GEO Flagships**	Involvement in GEO Flagships	No involvement in Flagships	Involvement in 1 flagship	Involvement in 2 flagships	Involvement in 3 flagships	Involvement in 4 flagships				
		30	**GEO Initiatives**	Involvement in GEO Initiatives	No involvement in GEO initiatives.	Involvement in 1 or 2 initiatives.	Involvement in 3-8 initiatives.	Involvement in more than 8 initiatives.	Leading at least one initiative (and involvement in at least 3 other initiatives)				
		31	**Provision of data to GEOSS**	Volume and quality of datasets contributed to GEOSS	No provision of data to GEOSS.	Plans for provision of data to GEOSS at country level (plans for sharing metadata brokered directly through the GEODAB) [plans for data to GEOSS]	Provision of one to five metadata types brokered directly through GEODAB [1-5 datasets to GEOSS]	Provision of 5 to 15 metadata types brokered directly through GEODAB [6-15 datasets to GEOSS]	Provision of more than 15 metadata types brokered directly through GEODAB and ideally [provision >15 datasets to GEOSS]				
	Involvement in Copernicus	32	**Financial contribution**	Financial contribution to the Copernicus programme	None.	Agreement in place.	EU Member State, not contributing through ESA.	EU Member State, and contributing less than EUR 200 M per year through ESA as well.	EU Member State, and contributing over EUR 200 M per year through ESA as well				
		33	**Contribution for Copernicus Se**	We look into involvement into Copernicus Services for services provision as carried out by public or private organisations within the specific country	No organisations from the country is involved in provision to Copernicus service component(s).	Less than 5 companies from the country are involved in provision to Copernicus service component(s)	Over 5 companies from the country are involved in provision to Copernicus service component(s)	Over 5/10? companies from the country are involved in provision to Copernicus service component(s), with a clear focus on one of the components	At least one company from the country is leading the provision for at least one service component.				
		34	**Copernicus-related R&D projec**	Participation into Copernicus-related R&D projects (within the past 3 years)	No projects using data from Copernicus [0 projects using Copernicus data]	1-5 projects using data from Copernicus [1-5 projects using Copernicus data]	6-25 projects using data from Copernicus [6-25 projects using Copernicus data]	26-50 projects using data from Copernicus [25-50 projects using Copernicus data]	Over 50 projects using data from Copernicus. [< 50 projects using Copernicus data]				
	Participation in other international effort	35	**Involvement in ESA activities o**	Level of involvement implied by the status of ESA member state or ESA cooperating state, and the information beyond these terms	No involvement.	Involvement through a general Cooperation Agreement.	European Cooperating State.	ESA Member State contributing less than EUR 500 million/year.	ESA Member State contributing more than EUR 500 million/year.				
		36	**Involvement in SDG Reporting**	Exploitation of EO as a tool to support SDG reporting (within the past 3 years)	No use of EO in monitoring/reporting of SDG´s [no SDGs actions]	Use of EO in reporting on at least in one SDG´s [1 SDGs action]	Use of EO in reporting on more than one action in SDG´s [2-10 SDGs actions]	Active use of EO for reporting on to different actions in SDG´s [11-25 SDGs actions]	Active use of EO for reporting on different actions in SDG´s in the last 3 years [over 25 SDGs actions]				
		37	**Involvement in other Global A**	Exploitation of EO as a tool in relevant Global Agenda initiatives and conventions (other than SDGs)	No national strategy to tackle it.		Use of EO in reporting.		Specific EO mention in consolidated country roadmap.				
		38	**Involvement in UN Ecosystem a**	Country participation to UN EO-focused programmes and relations with UN institutions (UNITAR, UNOSAT, UN-OOSA, UN-SPIDER, UNEP, etc.).	No membership of UN bodies related to Space activities nor participation in UN activities [no participation UN bodies]	Participation in at least one UN [EO activity (events w/g´s) [at least 1 active participation in UN agency/organisation]	Participation (between 2-5 activities) or plans for links to reference UN sites to focus international efforts, facilitate traceability and enable the establishment of measurement 'best practices' and active participation at one of the UN offices [participation in 2-5 UN agencies/organizations]	Active participation in more than 6 of the UN offices [participation in >6 UN agencies/organzations]	Active participation or membership of more than 6 UN bodies / offices related to space activities: in the last 5 years [participation >6 UN agencies/organzations/10 years]				
		39	**Involvement in Spatial Data Inf**	Involvement with Infrastructure for Spatial Information (INSPIRE or other. Possibly monitoring of n. of reports about the implementation and use of their infrastructures for spatial information)	TBD	TBD	TBD	TBD	TBD				
		40	**Involvement in Standardisation**	Country participation in other international organisations dealing with interoperability, standards, etc such as OGC	Not following programmes on standardisation processes: compatibility, interoperability, safety, repeatability [no engagement with Standardization discussions]	One public or private organisation participating in one of other international organizations dealing with standardisation, interoperability...etc [one organisation engage with Standardization discussions]	2-5 public or private organisations in the country have fully implemented and developed technical standards for EO [2-5 organizations engage with Standardization discussions]	6-10 public or private organisations participating in an international organisations dealing with standardization, interoperability...etc [6-10 organizations engage with Standardization discussions]	Over 10 public or private organisations are leading standardisation processes [> 10 organizations engage with Standardization discussions]				
	Involvement in International R&D efforts	41	**IFIs (World Bank, Regional Deve**	R&D funds from IFIs implemented on the country's territory within the past 3 years	None.	Up to 5 projects, all of them small (<100k)	Small projects and at least two over EUR 250k	At least two medium projects (>EUR 1 M) present as well	At least two big projects (>EUR 3 M) present as well				
		42	**Other funds**	Other Projects executed by national actors funded through national or international institutions (other than IFIs) within the past 3 years	None.	Up to 5 projects, all of them small(<EUR 50k)	Small projects and at least one of them over EUR 100k.	At least two medium projects (>EUR 500k) present as well.	At least two big projects (>EUR 1M) present as well.				
V. INNOVATION	**Innovation Support Mechanisms**	43	**Clusters or Innovation Hubs**	Number of clusters and innovation hubs in a country	No concentration of business activities around geo-information [no clusters]	At least one ICT cluster and hubs which could promote innovation and technological development [1 cluster]	2-5 professional cluster and hubs organisations involved in technological transfer and innovation [2-5 clusters]	6-10 clusters and hubs in more than one thematic. one cluster with silver impact [6-10 clusters]	Over 10 clusters and hubs in more than one thematic[1] including silver impact and at least one with golden [>10 clusters]				
		44	**Funding for startups**	Amount of available funding for startups	None	TBD	TBD	TBD	TBD				
	Startup Creation	45	**Total number of startups**	Number of existing startups (created within the last 3 years)	0	1-5	6-10	11-20	Over 20				
		46	**Creation Rate**	Creation rate of startups (for the past year)	0	1	2-5	6-10	Over 10				
		47	**Annual Revenue**	Average annual revenue of startups	Less than EUR 10k	EUR 10-50k	EUR 51-250k	EUR 251k - 1 M	Over EUR 1 M				
	~~**Patents**~~ *Suppressed*	~~48~~	~~**Hardware**~~	~~Number of patents registered for hardware innovation~~	~~No patents registered.~~	~~TBD~~	~~TBD~~	~~TBD~~	~~TBD~~				
		~~49~~	~~**Software**~~	~~Number of patents registered for software innovation~~	~~No patents registered.~~	~~TBD~~	~~TBD~~	~~TBD~~	~~TBD~~				
	Capital Investment	50	**Venture Funds**	Existence of available venture funds	None available.	Less than 3 generic innovation - research related.	4-10 generic innovation -research related.	Over 10 generic innovation -research related.	Over 10 generic innovation - research related. Dedicated EO funds as well.				
		51	**Capital raised**	Amount of investment raised by national players in the space sector	Less than EUR 100k	EUR 100k-1 M	EUR 1-10 M	EUR 10-50 M	Over EUR 100 M				

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National experts: Government (names, input)	National experts: Industry (names, input)	Conclusion and confidence in the assessment	Level claimed 0-4