

H2020 PUBLICATION DATA

OPENAIRE REPORT, DECEMBER 2016

BASIC INFORMATION

H2020: Total of **10684** projects - **2017 (19%)** of them have ended and **8667** are ongoing. OpenAIRE has identified **6133** publications linked to **1375** H2020 projects.

HOW DID WE IDENTIFY THEM?

- Through our extensive network of National Open Access Desks in 33 European countries that advocate for Green OA so researchers deposit print/post print publications in institutional or thematic repositories, and for Gold OA so that they use H2020 funds to publish in OA journals. Fully OpenAIRE compliant repositories automatically identify and report these publications.
- Integration of EC's reporting databases into OpenAIRE data, after this is cross checked with existing OpenAIRE data and CrossRef.
- Claims on the portal from researchers or project coordinators: 5,254 publications claimed by 323 users over a period of 2+ years.
- Text mining for H2020 grants in the full text of publications.

WHAT TYPE OF PUBLICATIONS?

The typology in Table 1 is based on the OpenAIRE guidelines vocabulary.

Table 1. H2020 publications by type

Type	Publications
Article	3822
Conference object	1344
Part of book or chapter of book	248
Unknown	240
Preprint	153
Research	82
Report	80
Other	80
Lecture	31
Doctoral thesis	16
Book	10
Collection	9
Software	7
Master thesis	4
Review	3
Bachelor thesis	1
External research report	1
Data Paper	1
Annotation	1

H2020 publications by type

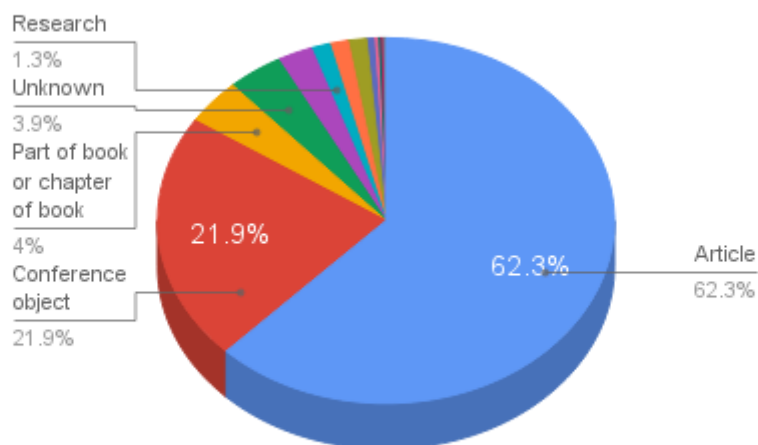


Figure 1. H2020 publications by type

OVERALL OBSERVATIONS AND STATISTICS

5,428 H2020 publications have a DOI and 2,151 have links to the Scimago (<http://www.scimagojr.com>) database. Even though these numbers can be further increased and refined via queries to CrossRef, we need to pay special attention and do further processing (disambiguation, de-duplication) as CrossRef's generic APIs does not allow for specialized/advanced queries.

Table 2 and Figure 2 show the H2020 publications over the years. 203 publications do not have a valid publication date.

Table 2. H2020 publication timeline

Year	Publications
2013	11
2014	138
2015	1951
2016	3804
2017	26
N/A	203
Total	6133

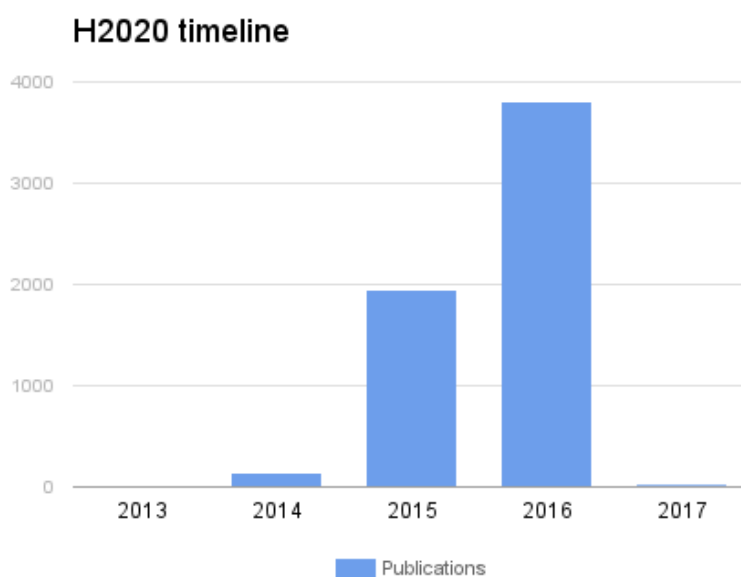


Figure 2. H2020 timeline diagram

Table 3. H2020 timeline by scientific area

<i>Scientific area</i>	2013	2014	2015	2016	2017	Total
<i>BBI-RIA</i>				1		1
<i>COFUND-EJP</i>	1	67	264	169		501
<i>CS2-IA</i>	1		1			2
<i>CSA</i>		1	57	123	3	184
<i>CSA-LS</i>				1		1
<i>ECSEL-IA</i>			15	11		26
<i>ECSEL-RIA</i>			4	12	1	17
<i>ERA-NET-Cofund</i>				2		2
<i>ERC</i>	1	15	217	691	9	933
<i>IA</i>	2	3	126	176	1	308
<i>MSCA-COFUND-FP</i>		1		1		2
<i>MSCA-IF-EF-CAR</i>		1		4		5
<i>MSCA-IF-EF-RI</i>			19	34		53
<i>MSCA-IF-EF-ST</i>		2	44	213	3	262
<i>MSCA-IF-GF</i>			1	23		24
<i>MSCA-ITN-EID</i>				2		2
<i>MSCA-ITN-EJD</i>			6	12		18
<i>MSCA-ITN-ETN</i>			43	214		257
<i>MSCA-RISE</i>		13	134	270	2	419
<i>RIA</i>	6	35	1025	1866	7	2939
<i>SESAR-RIA</i>				4	1	5
<i>SGA-CSA</i>			2	10		12
<i>SGA-RIA</i>			2	27		29
<i>SME-1</i>			1	1		2
<i>SME-2</i>			4	16		20
Total Result	11	138	1965	3883	27	6024

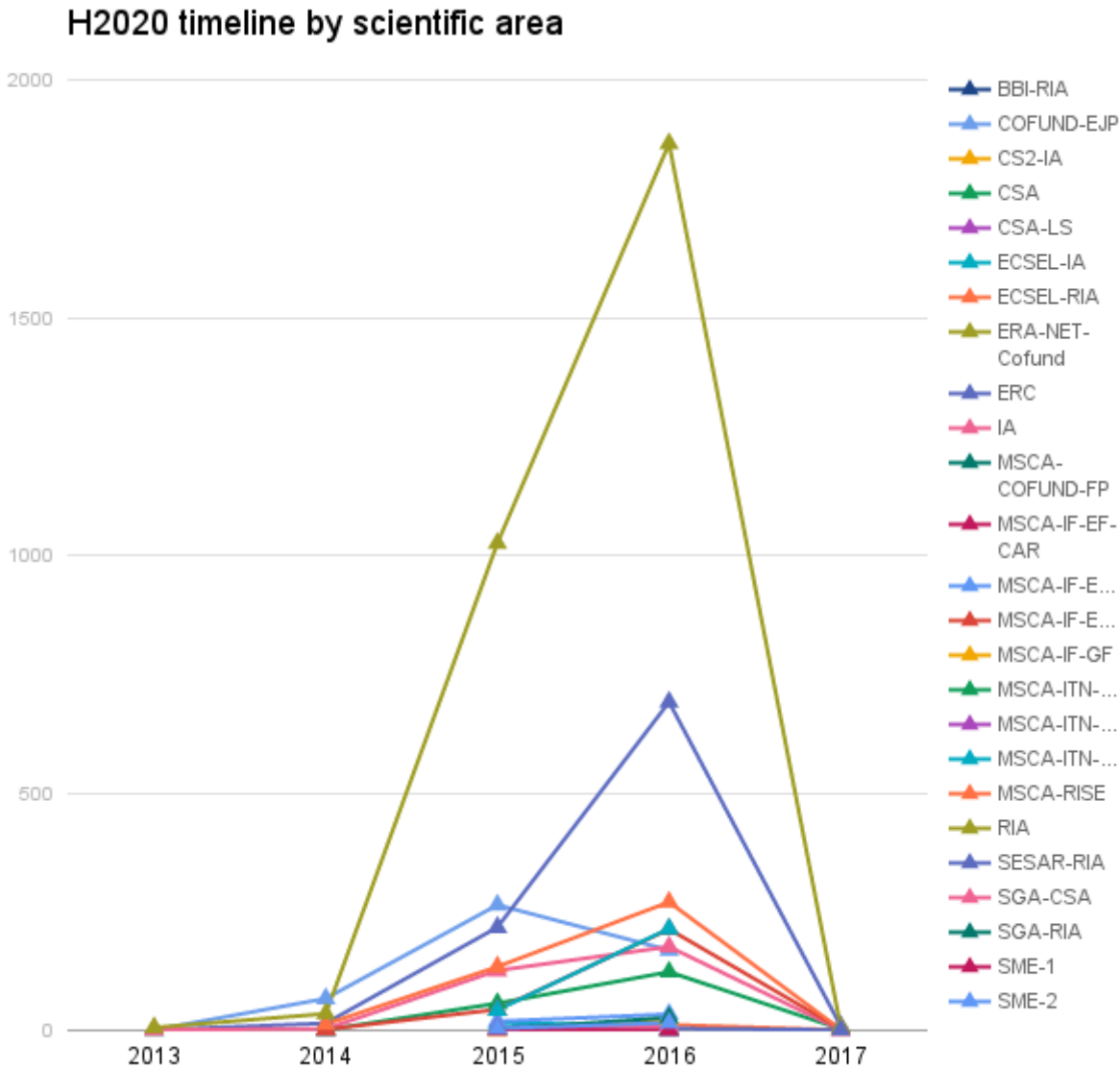


Figure 3. H2020 timeline by scientific area

Projects publish anywhere from 1 to a max of 446 publications, with an average of 23 publications per project. Table 4 illustrates this breakdown by scientific area.

Table 4. H2020 scientific areas project publication outputs

<i>Scientific Area</i>	Actual	Min	Max	Average
<i>BBI-RIA</i>	1	1	1	1
<i>COFUND-EJP</i>	501	501	501	501
<i>CS2-IA</i>	2	2	2	2
<i>CSA</i>	198	1	30	3
<i>CSA-LS</i>	1	1	1	1
<i>ECSEL-IA</i>	26	1	16	7
<i>ECSEL-RIA</i>	17	4	5	4
<i>ERA-NET-Cofund</i>	2	1	1	1
<i>ERC</i>	951	1	34	3
<i>IA</i>	323	1	22	4
<i>MSCA-COFUND-FP</i>	2	1	1	1
<i>MSCA-IF-EF-CAR</i>	5	1	1	1
<i>MSCA-IF-EF-RI</i>	54	1	20	3
<i>MSCA-IF-EF-ST</i>	271	1	7	2
<i>MSCA-IF-GF</i>	24	1	5	2
<i>MSCA-ITN-EID</i>	2	2	2	2
<i>MSCA-ITN-EJD</i>	19	1	13	5
<i>MSCA-ITN-ETN</i>	260	1	37	4
<i>MSCA-RISE</i>	426	1	57	6
<i>RIA</i>	3074	1	115	7
<i>SESAR-RIA</i>	6	1	2	1
<i>SGA-CSA</i>	13	1	5	3
<i>SGA-RIA</i>	29	5	19	10
<i>SME-1</i>	2	1	1	1
<i>SME-2</i>	20	1	9	3
Total Result	6229	1	501	23

H2020 publications by scientific area

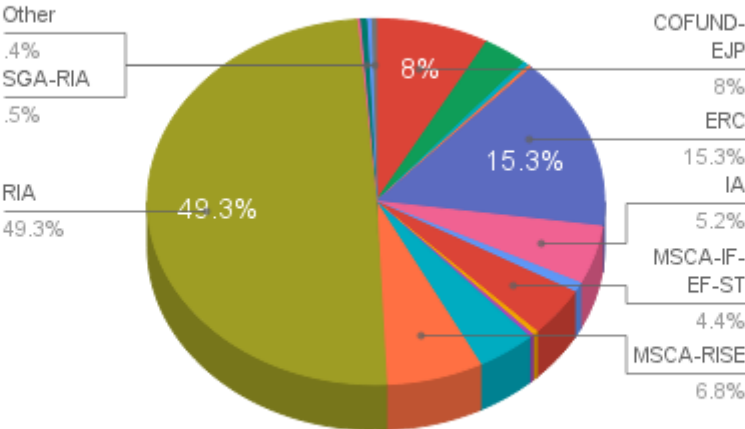


Figure 4. H2020 publications by project type

OPEN ACCESS EVALUATION

From the total of 6.133 H2020 publications 3.731 are OA, 7 are restricted (i.e., OA but with a more restrictive license or restricted to specific groups), while 38 are still in embargo. This translates to (a minimum) of 60.8% success rate.

Further analysis needs to be carried out as the overall data is biased towards closed access as a) we cannot easily define OA articles in hybrid journals, and b) there is still a large number of not fully OpenAIRE compliant repositories (i.e., no funding information attached to the publication metadata) so H2020 publications may have been deposited but not yet identified.

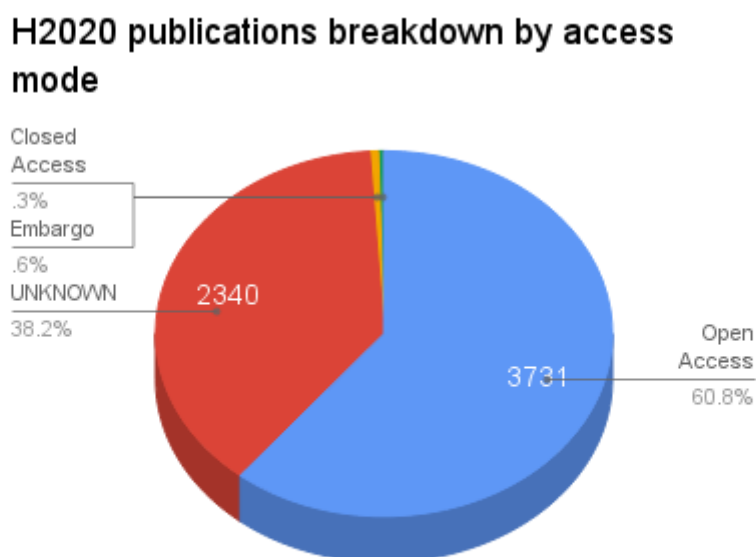


Figure 5. Overall H2020 OA evaluation

Table 5 shows the breakdown of H2020 publications from 2013-2016 broken down by their access state.

Table 5. H2020 publications 2007-2016 by access status

Year	Open Access	Closed Access	Embargo	Restricted	Unknown	Total Result	OA success rate
2013	8	1			2	11	73%
2014	106	1			31	138	77%
2015	1112	4	5	4	826	1951	57%
2016	2450	10	33	3	1308	3804	64%
2017	13				13	26	50%
Total	3689	16	38	7	2180	5930	62%

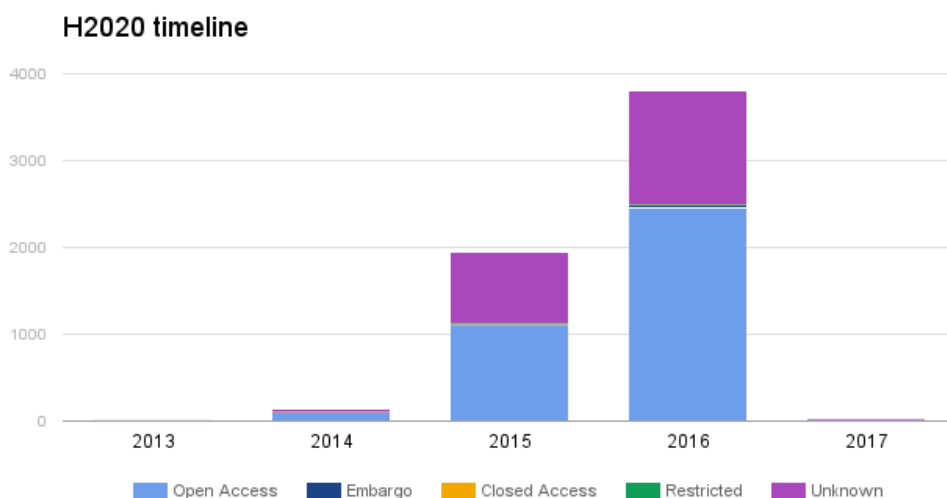
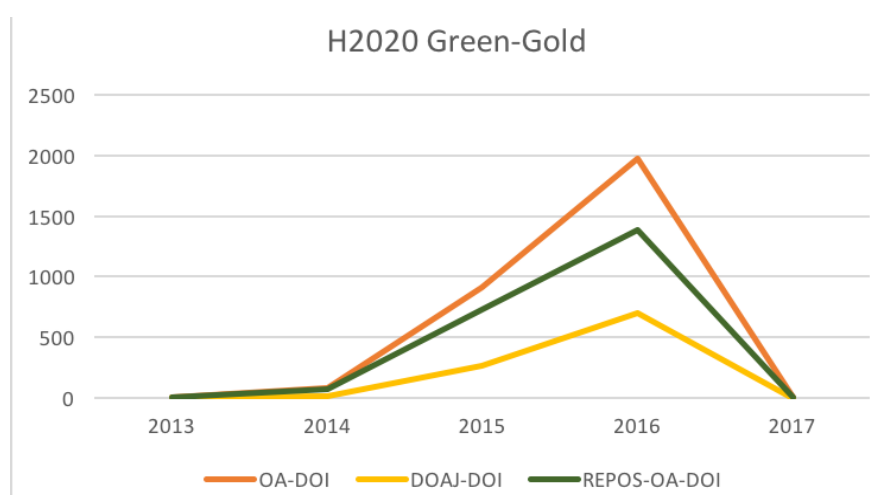


Figure 6. H2020 timeline, including OA status

GREEN VS. GOLD

The following table and figure shows an estimate of Green and Gold OA¹ over the years²

Year	OA-DOI	DOAJ-DOI	REPOS-OA-DOI
2013	4	1	3
2014	80	11	74
2015	915	268	727
2016	1971	701	1381
2017	5	0	5



¹ As there are more H2020 publications in non-OpenAIRE compatible repositories the green estimate is on the low side.

² Depositions in repositories usually have a lag (i.e., we will see more of 2015-2016 publications deposited in the next years).

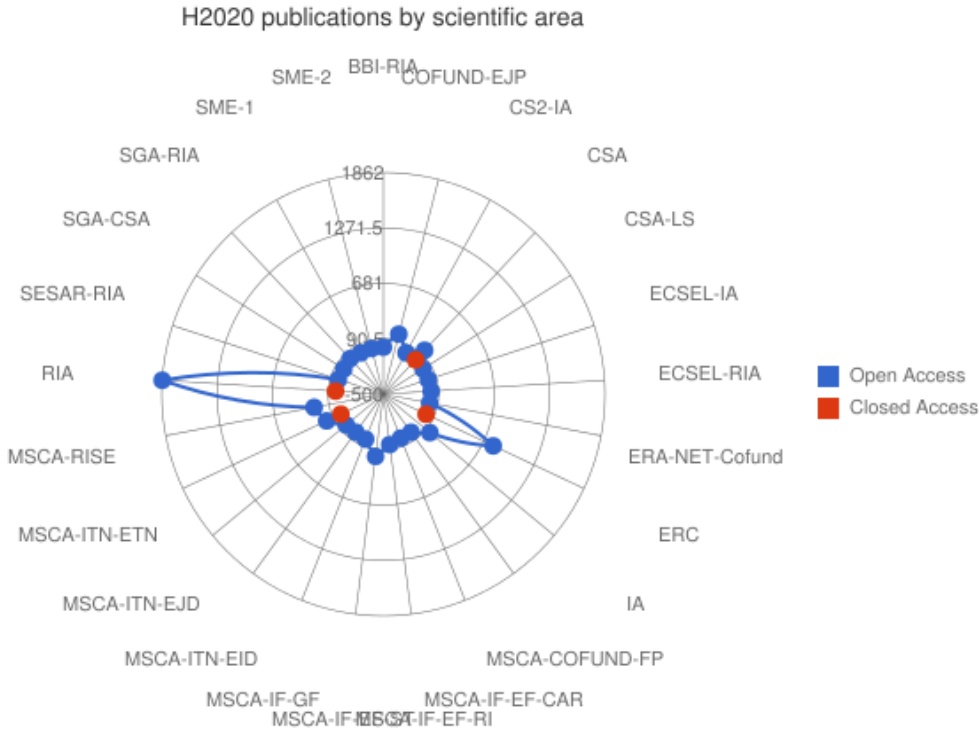


Figure 7. Schematic breakdown of Open/Closed Access publications in H2020

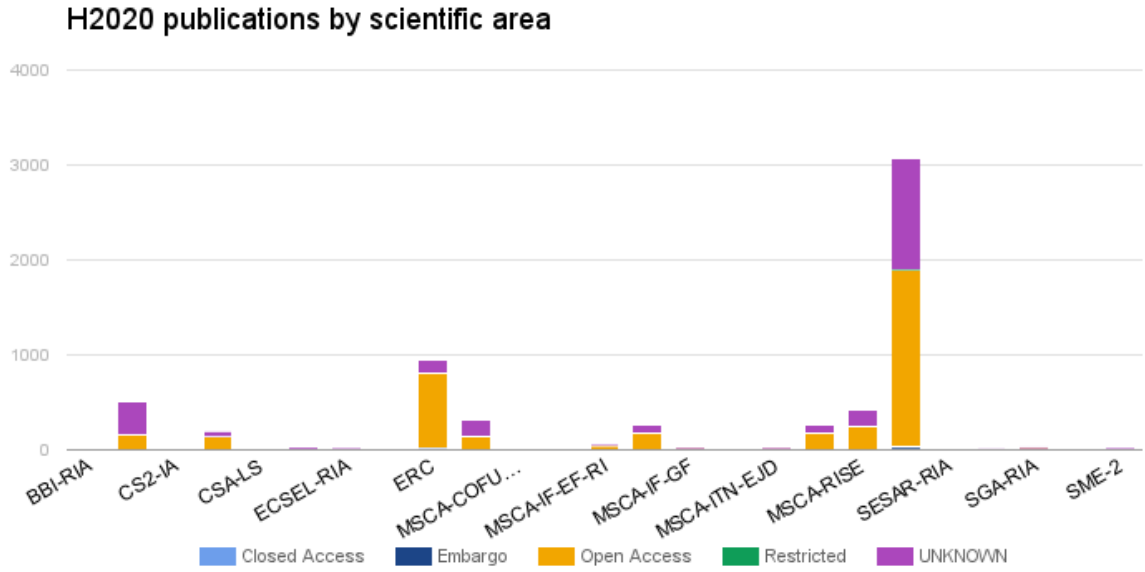


Figure 8. H2020 publications OA status by scientific area

Table 6. H2020 publication by scientific area by access status

<i>Scientific area</i>	Total	Open Access	Closed Access	Embargo	Restricted	Unknown	OA success rate
<i>BBI-RIA</i>	1	1					100%
<i>COFUND-EJP</i>	501	160		1		340	32%
<i>CS2-IA</i>	2	2					100%
<i>CSA</i>	198	142	2	1		53	72%
<i>CSA-LS</i>	1	1					100%
<i>ECSEL-IA</i>	26	3				23	12%
<i>ECSEL-RIA</i>	17	10				7	59%
<i>ERA-NET-Cofund</i>	2	2					100%
<i>ERC</i>	951	794	3	11		143	83%
<i>IA</i>	323	143		3		177	44%
<i>MSCA-COFUND-FP</i>	2	2					100%
<i>MSCA-IF-EF-CAR</i>	5	3				2	60%
<i>MSCA-IF-EF-RI</i>	54	42		1		11	78%
<i>MSCA-IF-EF-ST</i>	271	168		2		101	62%
<i>MSCA-IF-GF</i>	24	16				8	67%
<i>MSCA-ITN-EID</i>	2	1				1	50%
<i>MSCA-ITN-EJD</i>	19	14				5	74%
<i>MSCA-ITN-ETN</i>	260	168	1	2		89	65%
<i>MSCA-RISE</i>	426	252		2		172	59%
<i>RIA</i>	3074	1862	11	16	7	1178	61%
<i>SESAR-RIA</i>	6	5				1	83%
<i>SGA-CSA</i>	13	1				12	77%
<i>SGA-RIA</i>	29	19				10	66%
<i>SME-1</i>	2	2					100%
<i>SME-2</i>	20	3				17	15%
Total Result	6229	3816	17	39	7	2350	61%

ADVANCED STATISTICS

IMPACT

After we cross-matched the OpenAIRE data to Scimago's latest web files, we were able to come up with the data in Table 15. "High impact" journals are statistically computed for each thematic area by retrieving journals with the top 25% higher citation factors.

Table 15. Impact of H2020 articles from Scimago citation factors.

<i>Funding area</i>	Articles in 'peer-reviewed journals'	Articles in 'peer-reviewed high impact journal'	High impact success rate	OA articles in 'peer-reviewed journals'	OA articles in 'peer-reviewed high impact journal'	Overall OA success rate
<i>BBI-RIA</i>	1	1	100%	1	1	100%
<i>COFUND-EJP</i>	343	256	75%	81	67	83%
<i>CS2-IA</i>	2	2	100%	2	2	100%
<i>CSA</i>	69	49	71%	50	41	82%
<i>ECSEL-IA</i>	3	0	0%	2	0	0%
<i>ECSEL-RIA</i>	8	4	50%	4	2	50%
<i>ERA-NET-Cofund</i>	1	1	100%	1	1	100%
<i>ERC</i>	339	299	88%	281	250	89%
<i>IA</i>	75	39	52%	20	15	75%
<i>MSCA-COFUND-FP</i>	1	1	100%	1	1	100%
<i>MSCA-IF-EF-CAR</i>	4	3	75%	2	1	50%
<i>MSCA-IF-EF-RI</i>	10	9	90%	7	6	86%
<i>MSCA-IF-EF-ST</i>	113	91	81%	70	59	84%
<i>MSCA-IF-GF</i>	11	9	82%	7	6	86%
<i>MSCA-ITN-EID</i>	2	1	50%	0	0	0%
<i>MSCA-ITN-EJD</i>	9	8	89%	6	5	83%
<i>MSCA-ITN-ETN</i>	97	82	85%	56	52	93%
<i>MSCA-RISE</i>	176	126	72%	78	56	72%
<i>RIA</i>	865	595	69%	490	369	75%
<i>SESAR-RIA</i>	2	2	100%	2	2	100%
<i>SGA-CSA</i>	7	3	43%	1	0	0%
<i>SGA-RIA</i>	11	9	82%	6	6	100%
<i>SME-1</i>	1	0	0%	1	0	0%
<i>SME-2</i>	9	9	100%	3	3	100%
Total H2020	2151	1596	74%	1169	946	81%

Table 16. H2020 publications broken down by Scimago's journal classification.

<i>Journal thematic area</i>	'Peer-reviewed journals'			'Peer-reviewed high impact journals'		
	All	OA	OA rate	All	OA	OA rate
<i>Acoustics and Ultrasonics</i>	7	3	43%	7	3	43%
<i>Aerospace Engineering</i>	3	2	67%	1	0	0%
<i>Aging</i>	9	7	78%	8	7	88%
<i>Agricultural and Biological Sciences (miscellaneous)</i>	106	104	98%	104	102	98%
<i>Agronomy and Crop Science</i>	11	2	18%	10	1	10%
<i>Algebra and Number Theory</i>	1	1	100%	0	0	0%
<i>Analysis</i>	7	5	71%	3	1	33%
<i>Analytical Chemistry</i>	8	2	25%	5	1	20%
<i>Anatomy</i>	1	1	100%	1	1	100%
<i>Anesthesiology and Pain Medicine</i>	2	2	100%	2	2	100%
<i>Animal Science and Zoology</i>	6	1	17%	4	1	25%
<i>Applied Mathematics</i>	27	17	63%	21	14	67%
<i>Applied Microbiology and Biotechnology</i>	6	5	83%	6	5	83%
<i>Applied Psychology</i>	1	0	0%	0	0	0%
<i>Aquatic Science</i>	9	2	22%	8	2	25%
<i>Archeology</i>	1	0	0%	1	0	0%
<i>Archeology (arts and humanities)</i>	1	0	0%	1	0	0%
<i>Artificial Intelligence</i>	23	13	57%	15	9	60%
<i>Arts and Humanities (miscellaneous)</i>	3	2	67%	2	2	100%
<i>Astronomy and Astrophysics</i>	23	20	87%	0	0	0%
<i>Atmospheric Science</i>	22	14	64%	17	9	53%
<i>Atomic and Molecular Physics, and Optics</i>	114	32	28%	53	18	34%

<i>Journal thematic area</i>	'Peer-reviewed journals'			'Peer-reviewed high impact journals'		
	All	OA	OA rate	All	OA	OA rate
<i>Automotive Engineering</i>	3	2	67%	3	2	67%
<i>Behavioral Neuroscience</i>	7	5	71%	4	4	100%
<i>Biochemistry</i>	29	23	79%	16	12	75%
<i>Biochemistry, Genetics and Molecular Biology (miscellaneous)</i>	210	203	97%	197	190	96%
<i>Bioengineering</i>	16	6	38%	7	3	43%
<i>Biological Psychiatry</i>	12	9	75%	7	5	71%
<i>Biomaterials</i>	11	4	36%	7	1	14%
<i>Biomedical Engineering</i>	25	10	40%	16	9	56%
<i>Biophysics</i>	15	10	67%	8	5	63%
<i>Biotechnology</i>	38	27	71%	27	23	85%
<i>Building and Construction</i>	14	11	79%	14	11	79%
<i>Business and International Management</i>	1	0	0%	0	0	0%
<i>Business, Management and Accounting (miscellaneous)</i>	8	3	38%	0	0	0%
<i>Cancer Research</i>	13	8	62%	8	5	63%
<i>Cardiology and Cardiovascular Medicine</i>	12	6	50%	11	6	55%
<i>Catalysis</i>	14	5	36%	11	4	36%
<i>Cell Biology</i>	17	14	82%	13	12	92%
<i>Cellular and Molecular Neuroscience</i>	16	16	100%	7	7	100%
<i>Ceramics and Composites</i>	14	5	36%	13	4	31%
<i>Chemical Engineering (miscellaneous)</i>	29	8	28%	26	7	27%
<i>Chemistry (miscellaneous)</i>	118	82	69%	114	81	71%
<i>Civil and Structural Engineering</i>	113	28	25%	28	21	75%
<i>Clinical Biochemistry</i>	5	2	40%	2	0	0%

<i>Journal thematic area</i>	'Peer-reviewed journals'			'Peer-reviewed high impact journals'		
	All	OA	OA rate	All	OA	OA rate
<i>Cognitive Neuroscience</i>	10	7	70%	4	3	75%
<i>Colloid and Surface Chemistry</i>	2	0	0%	2	0	0%
<i>Communication</i>	3	3	100%	3	3	100%
<i>Computational Mathematics</i>	6	6	100%	2	2	100%
<i>Computational Mechanics</i>	4	1	25%	4	1	25%
<i>Computational Theory and Mathematics</i>	20	12	60%	13	9	69%
<i>Computer Graphics and Computer-Aided Design</i>	23	17	74%	23	17	74%
<i>Computer Networks and Communications</i>	74	30	41%	48	19	40%
<i>Computer Science (miscellaneous)</i>	211	80	38%	22	12	55%
<i>Computer Science Applications</i>	109	48	44%	72	33	46%
<i>Computer Vision and Pattern Recognition</i>	8	7	88%	7	7	100%
<i>Computers in Earth Sciences</i>	6	3	50%	6	3	50%
<i>Condensed Matter Physics</i>	231	81	35%	142	64	45%
<i>Conservation</i>	3	0	0%	3	0	0%
<i>Control and Optimization</i>	1	0	0%	1	0	0%
<i>Control and Systems Engineering</i>	58	16	28%	35	5	14%
<i>Critical Care and Intensive Care Medicine</i>	2	0	0%	2	0	0%
<i>Cultural Studies</i>	1	1	100%	1	1	100%
<i>Demography</i>	1	0	0%	1	0	0%
<i>Development</i>	1	1	100%	1	1	100%
<i>Developmental Biology</i>	8	8	100%	8	8	100%
<i>Developmental Neuroscience</i>	1	1	100%	1	1	100%

<i>Journal thematic area</i>	'Peer-reviewed journals'			'Peer-reviewed high impact journals'		
	All	OA	OA rate	All	OA	OA rate
<i>Developmental and Educational Psychology</i>	1	0	0%	1	0	0%
<i>Discrete Mathematics and Combinatorics</i>	2	1	50%	2	1	50%
<i>Drug Discovery</i>	11	5	45%	7	1	14%
<i>Earth and Planetary Sciences (miscellaneous)</i>	25	16	64%	23	16	70%
<i>Earth-Surface Processes</i>	3	0	0%	2	0	0%
<i>Ecological Modeling</i>	2	0	0%	2	0	0%
<i>Ecology</i>	5	4	80%	2	1	50%
<i>Ecology, Evolution, Behavior and Systematics</i>	20	14	70%	17	14	82%
<i>Economics and Econometrics</i>	4	3	75%	2	1	50%
<i>Education</i>	4	4	100%	2	2	100%
<i>Electrical and Electronic Engineering</i>	157	50	32%	118	41	35%
<i>Electrochemistry</i>	13	4	31%	12	3	25%
<i>Electronic, Optical and Magnetic Materials</i>	107	35	33%	79	29	37%
<i>Endocrine and Autonomic Systems</i>	2	1	50%	2	1	50%
<i>Endocrinology</i>	5	2	40%	2	1	50%
<i>Endocrinology, Diabetes and Metabolism</i>	7	3	43%	6	3	50%
<i>Energy (miscellaneous)</i>	35	22	63%	29	18	62%
<i>Energy Engineering and Power Technology</i>	21	15	71%	19	13	68%
<i>Engineering (miscellaneous)</i>	21	10	48%	13	8	62%
<i>Environmental Chemistry</i>	20	5	25%	14	5	36%
<i>Environmental Engineering</i>	3	1	33%	3	1	33%
<i>Environmental Science</i>	19	10	53%	17	8	47%

<i>Journal thematic area</i>	'Peer-reviewed journals'			'Peer-reviewed high impact journals'		
	All	OA	OA rate	All	OA	OA rate
<i>(miscellaneous)</i>						
<i>Epidemiology</i>	5	2	40%	1	1	100%
<i>Experimental and Cognitive Psychology</i>	5	1	20%	1	0	0%
<i>Finance</i>	2	2	100%	0	0	0%
<i>Fluid Flow and Transfer Processes</i>	1	0	0%	1	0	0%
<i>Food Science</i>	5	3	60%	5	3	60%
<i>Forestry</i>	3	3	100%	1	1	100%
<i>Fuel Technology</i>	15	12	80%	14	11	79%
<i>Gastroenterology</i>	1	1	100%	0	0	0%
<i>Gender Studies</i>	1	1	100%	1	1	100%
<i>Genetics</i>	29	26	90%	20	18	90%
<i>Genetics (clinical)</i>	7	6	86%	5	4	80%
<i>Geochemistry and Petrology</i>	4	2	50%	4	2	50%
<i>Geography, Planning and Development</i>	4	2	50%	4	2	50%
<i>Geology</i>	10	3	30%	8	2	25%
<i>Geometry and Topology</i>	3	2	67%	0	0	0%
<i>Geophysics</i>	16	9	56%	16	9	56%
<i>Geotechnical Engineering and Engineering Geology</i>	3	0	0%	3	0	0%
<i>Geriatrics and Gerontology</i>	4	1	25%	2	1	50%
<i>Gerontology</i>	1	0	0%	0	0	0%
<i>Global and Planetary Change</i>	7	4	57%	5	3	60%
<i>Hardware and Architecture</i>	47	21	45%	31	15	48%
<i>Health (social science)</i>	1	0	0%	1	0	0%
<i>Health Informatics</i>	16	16	100%	15	15	100%

<i>Journal thematic area</i>	'Peer-reviewed journals'			'Peer-reviewed high impact journals'		
	All	OA	OA rate	All	OA	OA rate
<i>Health Policy</i>	6	6	100%	6	6	100%
<i>Health, Toxicology and Mutagenesis</i>	7	3	43%	1	1	100%
<i>Hematology</i>	2	0	0%	2	0	0%
<i>History</i>	2	0	0%	2	0	0%
<i>History and Philosophy of Science</i>	16	10	63%	16	10	63%
<i>Human-Computer Interaction</i>	10	4	40%	4	1	25%
<i>Immunology</i>	15	10	67%	11	9	82%
<i>Immunology and Allergy</i>	7	5	71%	7	5	71%
<i>Immunology and Microbiology (miscellaneous)</i>	36	34	94%	22	20	91%
<i>Industrial and Manufacturing Engineering</i>	36	13	36%	14	4	29%
<i>Infectious Diseases</i>	19	8	42%	19	8	42%
<i>Information Systems</i>	40	25	63%	31	21	68%
<i>Information Systems and Management</i>	5	1	20%	5	1	20%
<i>Inorganic Chemistry</i>	13	1	8%	4	0	0%
<i>Insect Science</i>	1	0	0%	0	0	0%
<i>Instrumentation</i>	62	17	27%	29	11	38%
<i>Internal Medicine</i>	1	0	0%	0	0	0%
<i>Language and Linguistics</i>	1	1	100%	1	1	100%
<i>Law</i>	12	8	67%	9	5	56%
<i>Library and Information Sciences</i>	12	9	75%	9	7	78%
<i>Linguistics and Language</i>	1	1	100%	1	1	100%
<i>Logic</i>	3	2	67%	0	0	0%
<i>Management Information Systems</i>	1	0	0%	1	0	0%

<i>Journal thematic area</i>	'Peer-reviewed journals'			'Peer-reviewed high impact journals'		
	All	OA	OA rate	All	OA	OA rate
<i>Management Science and Operations Research</i>	3	3	100%	2	2	100%
<i>Management, Monitoring, Policy and Law</i>	9	8	89%	9	8	89%
<i>Materials Chemistry</i>	41	8	20%	35	8	23%
<i>Materials Science (miscellaneous)</i>	211	52	25%	118	45	38%
<i>Mathematical Physics</i>	59	15	25%	2	1	50%
<i>Mathematics (miscellaneous)</i>	11	2	18%	8	1	13%
<i>Mechanical Engineering</i>	143	39	27%	138	38	28%
<i>Mechanics of Materials</i>	26	12	46%	26	12	46%
<i>Media Technology</i>	2	1	50%	2	1	50%
<i>Medical Laboratory Technology</i>	2	2	100%	0	0	0%
<i>Medicine (miscellaneous)</i>	191	156	82%	146	136	93%
<i>Metals and Alloys</i>	16	5	31%	16	5	31%
<i>Microbiology</i>	16	10	63%	13	10	77%
<i>Microbiology (medical)</i>	13	9	69%	13	9	69%
<i>Modeling and Simulation</i>	24	12	50%	14	6	43%
<i>Molecular Biology</i>	27	21	78%	13	11	85%
<i>Molecular Medicine</i>	12	9	75%	7	6	86%
<i>Multidisciplinary</i>	127	124	98%	126	123	98%
<i>Nanoscience and Nanotechnology</i>	57	21	37%	44	18	41%
<i>Nature and Landscape Conservation</i>	5	5	100%	2	2	100%
<i>Neurology</i>	15	13	87%	14	12	86%
<i>Neurology (clinical)</i>	11	8	73%	10	7	70%
<i>Neuropsychology and Physiological Psychology</i>	7	4	57%	6	4	67%
<i>Neuroscience</i>	46	37	80%	33	27	82%

<i>Journal thematic area</i>	'Peer-reviewed journals'			'Peer-reviewed high impact journals'		
	All	OA	OA rate	All	OA	OA rate
<i>(miscellaneous)</i>						
<i>Nuclear Energy and Engineering</i>	165	34	21%	77	27	35%
<i>Nuclear and High Energy Physics</i>	210	87	41%	118	63	53%
<i>Numerical Analysis</i>	1	0	0%	1	0	0%
<i>Nutrition and Dietetics</i>	4	1	25%	3	0	0%
<i>Ocean Engineering</i>	2	1	50%	1	1	100%
<i>Oceanography</i>	9	1	11%	7	1	14%
<i>Oncology</i>	14	8	57%	11	7	64%
<i>Ophthalmology</i>	1	1	100%	1	1	100%
<i>Organic Chemistry</i>	9	4	44%	5	2	40%
<i>Orthopedics and Sports Medicine</i>	2	1	50%	2	1	50%
<i>Parasitology</i>	5	3	60%	3	3	100%
<i>Pathology and Forensic Medicine</i>	2	0	0%	1	0	0%
<i>Pharmaceutical Science</i>	7	2	29%	3	2	67%
<i>Pharmacology</i>	13	5	38%	13	5	38%
<i>Pharmacology (medical)</i>	7	3	43%	6	3	50%
<i>Pharmacology, Toxicology and Pharmaceutics (miscellaneous)</i>	10	9	90%	10	9	90%
<i>Philosophy</i>	5	2	40%	5	2	40%
<i>Physical and Theoretical Chemistry</i>	22	7	32%	18	6	33%
<i>Physics and Astronomy (miscellaneous)</i>	192	130	68%	133	122	92%
<i>Physiology</i>	13	13	100%	12	12	100%
<i>Physiology (medical)</i>	10	7	70%	10	7	70%
<i>Plant Science</i>	26	14	54%	24	14	58%
<i>Political Science and</i>	1	0	0%	1	0	0%

<i>Journal thematic area</i>	'Peer-reviewed journals'			'Peer-reviewed high impact journals'		
	All	OA	OA rate	All	OA	OA rate
<i>International Relations</i>						
<i>Pollution</i>	14	3	21%	10	2	20%
<i>Polymers and Plastics</i>	10	3	30%	8	3	38%
<i>Process Chemistry and Technology</i>	3	1	33%	3	1	33%
<i>Psychiatry and Mental Health</i>	19	11	58%	19	11	58%
<i>Psychology (miscellaneous)</i>	14	13	93%	14	13	93%
<i>Public Health, Environmental and Occupational Health</i>	8	6	75%	8	6	75%
<i>Pulmonary and Respiratory Medicine</i>	2	2	100%	2	2	100%
<i>Radiation</i>	7	2	29%	4	2	50%
<i>Radiological and Ultrasound Technology</i>	4	3	75%	3	2	67%
<i>Radiology, Nuclear Medicine and Imaging</i>	8	4	50%	7	3	43%
<i>Rehabilitation</i>	6	5	83%	6	5	83%
<i>Religious Studies</i>	1	1	100%	0	0	0%
<i>Renewable Energy, Sustainability and the Environment</i>	31	18	58%	29	16	55%
<i>Safety, Risk, Reliability and Quality</i>	8	3	38%	5	1	20%
<i>Sensory Systems</i>	3	2	67%	2	1	50%
<i>Signal Processing</i>	12	6	50%	7	3	43%
<i>Social Sciences (miscellaneous)</i>	5	3	60%	3	1	33%
<i>Sociology and Political Science</i>	4	3	75%	2	1	50%
<i>Software</i>	74	33	45%	44	16	36%
<i>Soil Science</i>	10	4	40%	9	4	44%

<i>Journal thematic area</i>	'Peer-reviewed journals'			'Peer-reviewed high impact journals'		
	All	OA	OA rate	All	OA	OA rate
<i>Space and Planetary Science</i>	10	9	90%	0	0	0%
<i>Spectroscopy</i>	8	3	38%	4	3	75%
<i>Speech and Hearing</i>	1	0	0%	0	0	0%
<i>Sports Science</i>	2	1	50%	2	1	50%
<i>Statistical and Nonlinear Physics</i>	14	7	50%	5	1	20%
<i>Statistics and Probability</i>	13	11	85%	1	1	100%
<i>Statistics, Probability and Uncertainty</i>	4	4	100%	0	0	0%
<i>Strategy and Management</i>	3	3	100%	3	3	100%
<i>Structural Biology</i>	15	12	80%	7	4	57%
<i>Surfaces and Interfaces</i>	2	0	0%	1	0	0%
<i>Surfaces, Coatings and Films</i>	44	11	25%	39	10	26%
<i>Surgery</i>	2	2	100%	2	2	100%
<i>Theoretical Computer Science</i>	175	65	37%	4	2	50%
<i>Tourism, Leisure and Hospitality Management</i>	1	1	100%	1	1	100%
<i>Toxicology</i>	3	2	67%	1	0	0%
<i>Transportation</i>	2	2	100%	2	2	100%
<i>Urban Studies</i>	1	1	100%	1	1	100%
<i>Veterinary (miscellaneous)</i>	6	1	17%	5	1	20%
<i>Virology</i>	8	5	63%	4	3	75%
<i>Waste Management and Disposal</i>	4	2	50%	4	2	50%
<i>Water Science and Technology</i>	3	2	67%	3	2	67%
Total	5267	2703	51%	3451	2057	60%

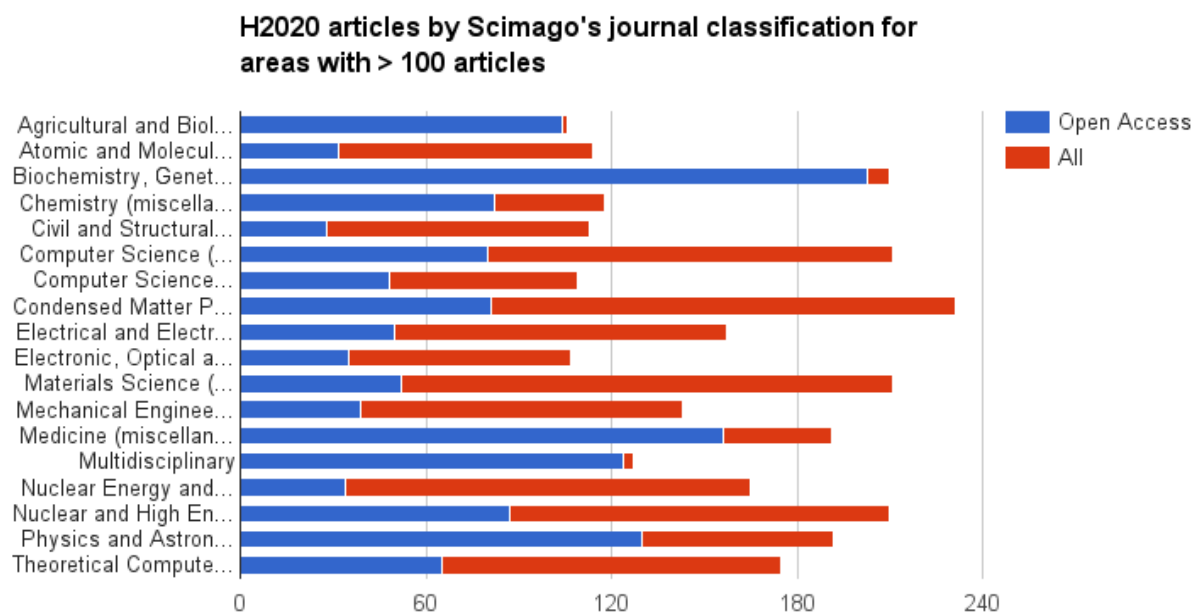


Figure 14. H2020 articles by Scimago's journal classification.

AUTHOR STATISTICS. AUTHOR NETWORKS.

Table 17. Statistics on authors of H2020 publications.

<i>Scientific area</i>	Number of Authors		
	Average	Min	Median
<i>BBI-RIA</i>	6	6	6
<i>COFUND-EJP</i>	9.42	1	7
<i>CS2-IA</i>	4	4	4
<i>CSA</i>	5.21	1	4
<i>ECSEL-IA</i>	8.73	4	7
<i>ECSEL-RIA</i>	4.35	1	4
<i>ERA-NET-Cofund</i>	13	7	13
<i>ERC</i>	6.12	1	4
<i>IA</i>	4.31	1	4
<i>MSCA-COFUND-FP</i>	7	3	7
<i>MSCA-IF-EF-CAR</i>	9.4	3	4
<i>MSCA-IF-EF-RI</i>	3.96	1	3
<i>MSCA-IF-EF-ST</i>	5.61	1	4
<i>MSCA-IF-GF</i>	8.63	1	5
<i>MSCA-ITN-EID</i>	8.5	6	9
<i>MSCA-ITN-EJD</i>	4.21	2	4
<i>MSCA-ITN-ETN</i>	5.63	1	5
<i>MSCA-RISE</i>	6.86	1	4
<i>RIA</i>	5.96	1	4
<i>SESAR-RIA</i>	5	1	4
<i>SGA-CSA</i>	3.15	1	2
<i>SGA-RIA</i>	5.07	2	4
<i>SME-1</i>	3.5	3	4
<i>SME-2</i>	9.95	2	7
H2020	6.19	1	4

In addition we did some calculations and comparisons (simple network analysis) to see how authors collaborated during H2020 and whether these collaborations existed before. Table 18 shows the values of author collaborations (in pairs) before the beginning, and during the H2020 project.

Column explanation in Table 18:

Author pairs during: number of author pairs that collaborated for an H2020 paper

Author pairs before: author pairs that have collaborated before an H2020 paper

Table 18. Author networks before, during H2020.

<i>Scientific area</i>	Author pairs	
	During	Before
<i>BBI-RIA</i>	15	15
<i>COFUND-EJP</i>	29964	512
<i>CS2-IA</i>	6	6
<i>CSA</i>	3047	636
<i>ECSEL-IA</i>	1139	4
<i>ECSEL-RIA</i>	116	27
<i>ERA-NET-Cofund</i>	192	20
<i>ERC</i>	24483	6703
<i>IA</i>	3489	183
<i>MSCA-COFUND-FP</i>	58	11
<i>MSCA-IF-EF-CAR</i>	462	13
<i>MSCA-IF-EF-RI</i>	821	398
<i>MSCA-IF-EF-ST</i>	3941	302
<i>MSCA-IF-GF</i>	2821	1204
<i>MSCA-ITN-EJD</i>	124	3
<i>MSCA-ITN-ETN</i>	4532	283
<i>MSCA-RISE</i>	47628	612
<i>RIA</i>	110741	11731
<i>SESAR-RIA</i>	58	3
<i>SGA-CSA</i>	106	2
<i>SGA-RIA</i>	350	3
<i>SME-2</i>	1862	7
H2020	231966	20043