

**ISTRAŽIVANJE I RAZVOJ U 2018. GODINI  
RESEARCH AND DEVELOPMENT IN 2018**

Na poslovima istraživanja i razvoja u 2018. godini bile su zaposlene 2.045 osobe, sa punim i kraćim od punog radnog vremena, od čega je 1.045 žena, odnosno 51,10%. Izraženo ekvivalentom pune zaposlenosti, na poslovima istraživanja i razvoja puno radno vrijeme bilo je angažirano 1.624,30 osoba.

U istom periodu na poslovima istraživanja i razvoja, na osnovu ugovora o djelu ili autorskog ugovora, bilo je angažirano 291 osoba, od čega je 102 žena, odnosno 35,05%. Izraženo ekvivalentom pune zaposlenosti, na poslovima istraživanja i razvoja puno radno vrijeme bilo je angažirano 118,80 osoba.

Od ukupnog broja zaposlenih, najveće učešće imaju istraživači (71,49%), stručni saradnici (12,32%), tehničko osoblje (5,09%), ostalo osoblje (8,12%), rukovodeće osoblje (3,57%).

Najveći broj istraživača zaposlen je u sektoru visokog obrazovanja (91,88%), državnom sektoru (6,00%), poslovnom sektoru (2,98%) .

Kada se posmatra naučna oblast istraživačkog rada najveći broj istraživača zaposlen je u oblasti inženjstva i tehnologija (31,98%).

Bruto izdaci za istraživanje i razvoj u 2018. godini iznosili su 38.881.000 KM, od toga su tekući izdaci iznosili 34.175.000 KM (87,90%), a investicioni izdaci 4.706.000 KM (12,10%).

Bruto izdaci su najveći bili u oblasti prirodnih nauka (30,94%). Naučna oblast određena je prema pretežnoj oblasti, odnosno oblasti u kojoj radi najveći broj zaposlenih na poslovima istraživanja i razvoja.

Najviše utrošenih sredstava za naučnoistraživački rad je u oblasti obrazovanja (55,68%).

Ukupan broj istraživačko-razvojnih radova je 998, od čega je najveći broj radova iz poljoprivrede (38,98%) i inženjstva i tehnologija (32,97%).

Od 50 posmatranih jedinica koje su u 2018. godini obavljale djelatnosti istraživanja i razvoja, 33 jedinica je iz sektora visokog obrazovanja, 15 jedinica iz poslovnog sektora, a 2 jedinica iz državnog sektora.

*There were 2.045 persons engaged in R&D in full-time and part - time employment, out of which 1.045 or 51.10% were women. It is also possible to display the total number of employees by full-time equivalent, thus, in 2018 there were 1.624,30 persons working full-time in research and development activities.*

*In the same period, 291 persons were hired under temporary service contracts and copyright agreements in research and development activities, out of which 102 were women, 35,05%. Expressed in full time equivalent, 118.80 persons were hired under temporary service contracts and copyright agreements in research and development activities.*

*Out of the total number of employees, the largest share is that of researchers (71,49%), research associates (12,32%), technicians (5,09%), other supporting staff (8,12%) and management (3,57%).*

*Most researchers were hired in the sector of higher education (91,88%), followed by government sector (6,00%) and business sector (2,98%).*

*By field of science, the highest number of researches was engaged in the field of Engineering and Technology (31.98%).*

*Gross expenditure on R&D in 2018 was 38.881.000 KM, out of which current expenditures were 34.175.000 KM (87,90%), and investment expenditure 4.706.000 KM (12,10%).*

*Gross expenditures were the highest in the field of Natural sciences (30,94%) . The field of science is determined according to predominance. The predominant field is the one in which most personnel work in research and development.*

*The highest share of funds for R&D was intended for Education (55,68%).*

*The total number of R&D works was 998, with the majority of work being part of Agricultural sciences (38,98%) and Engineering and Technology (32,97%).*

*Out of the total number of R&D units, which was 50 in 2018, 33 were part of the higher education sector, 15 were part of the business sector and 2 units were part both of government sector and non-profit sector.*

**1. ZAPOSLENI NA POSLOVIMA IR PREMA SEKTORIMA I POLU U 2018.**

PERSONS ENGAGED IN R&amp;D BY SECTOR AND SEX, 2018

	Ukupno <i>Total</i>				Sa punim radnim vremenom <i>Working full - time</i>		Sa kraćim od punog radnog vremena <i>Working part - time</i>				
	Ukupno Total		u ekvivalentu pune zaposlenosti <i>in full-time equivalent</i>				ukupno <i>total</i>		u ekvivalentu pune zaposlenosti <i>in full-time equivalent</i>		
	svega/ all	žene/ female	svega/ all	žene/ female	svega/ all	žene/ female	svega/ all	žene/ female	svega/ all	žene/ female	
<b>UKUPNO</b>	<b>2.045</b>	<b>1.045</b>	<b>1.624,30</b>	<b>834,60</b>	<b>1424</b>	<b>731</b>	<b>621</b>	<b>314</b>	<b>200,30</b>	<b>103,60</b>	<b>TOTAL</b>
Istraživači	1.462	710	1.224,30	592,70	1092	520	370	190	132,30	72,70	Researchers
Stručni saradnici	252	128	141,60	76,10	99	59	153	69	42,60	17,10	Research associates
Tehničko osoblje	104	62	75,90	50,80	64	43	40	19	11,90	7,80	Technicians
Rukovodeće osoblje	61	23	44,50	19,30	38	18	23	5	6,50	1,30	Managers
Ostalo osoblje	166	122	138,00	95,70	131	91	35	31	7,00	4,70	Other supporting staff
<b>POSLOVNI SEKTOR</b>	<b>257</b>	<b>131</b>	<b>203,00</b>	<b>111,20</b>	<b>183</b>	<b>104</b>	<b>74</b>	<b>27</b>	<b>20,00</b>	<b>7,20</b>	<b>BUSINESS SECTOR</b>
Istraživači	48	20	45,20	18,10	40	16	8	4	5,20	2,10	Researchers
Stručni saradnici	119	59	79,40	47,70	70	45	49	14	9,40	2,70	Research associates
Tehničko osoblje	25	19	20,70	15,30	19	14	6	5	1,70	1,30	Technicians
Rukovodeće osoblje	23	10	16,50	7,90	13	7	10	3	3,50	0,90	Managers
Ostalo osoblje	42	23	41,20	22,20	41	22	1	1	0,20	0,20	Other supporting staff
<b>VISOKO OBRAZOVANJE</b>	<b>1.700</b>	<b>881</b>	<b>1.376,50</b>	<b>706,70</b>	<b>1214</b>	<b>617</b>	<b>486</b>	<b>264</b>	<b>162,50</b>	<b>89,70</b>	<b>HIGHER EDUCATION</b>
Istraživači	1.381	678	1.162,90	568,90	1043	501	338	177	119,90	67,90	Researchers
Stručni saradnici	110	60	51,80	25,00	24	13	86	47	27,80	12,00	Research associates
Tehničko osoblje	67	38	47,40	31,70	40	26	27	12	7,40	5,70	Technicians
Rukovodeće osoblje	27	12	23,40	11,20	22	11	5	1	1,40	0,20	Managers
Ostalo osoblje	115	93	91,00	69,90	85	66	30	27	6,00	3,90	Other supporting staff
<b>DRŽAVNI SEKTOR</b>	<b>88</b>	<b>33</b>	<b>44,80</b>	<b>16,70</b>	<b>27</b>	<b>10</b>	<b>61</b>	<b>23</b>	<b>17,80</b>	<b>6,70</b>	<b>GOVERNMENT SECTOR</b>
Istraživači	33	12	16,20	5,70	9	3	24	9	7,20	2,70	Researchers
Stručni saradnici	23	9	10,40	3,40	5	1	18	8	5,40	2,40	Research associates
Tehničko osoblje	12	5	7,80	3,80	5	3	7	2	2,80	0,80	Technicians
Rukovodeće osoblje	11	1	4,60	0,20	3	-	8	1	1,60	0,20	Managers
Ostalo osoblje	9	6	5,80	3,60	5	3	4	3	0,80	0,60	Other supporting staff
<b>NEPROFITNI SEKTOR</b>	-	-	-	-	-	-	-	-	-	-	<b>NON-PROFIT SECTOR</b>
Istraživači	-	-	-	-	-	-	-	-	-	-	Researchers
Stručni saradnici	-	-	-	-	-	-	-	-	-	-	Research associates
Tehničko osoblje	-	-	-	-	-	-	-	-	-	-	Technicians
Rukovodeće osoblje	-	-	-	-	-	-	-	-	-	-	Managers
Ostalo osoblje	-	-	-	-	-	-	-	-	-	-	Other supporting staff

**2. ZAPOSLENI NA POSLOVIMA IR PREMA SEKTORIMA, NAUČNOJ OBLASTI I POLU U 2018.**

PERSONS ENGAGED IN R&amp;D BY SECTOR, FIELD OF SCIENCE AND SEX, 2018

	Ukupno/ Total		Istraživači Researchers		Stručni saradnici Research associates		Tehničko osoblje Technicians		Rukovodeće osoblje Management		Ostalo osoblje Other supporting staff		
	svega / all	žene/ female	svega/ all	žene/ female	svega/ all	žene/ female	svega/ all	žene/ female	svega/ all	žene/ female	svega / all	žene/ female	
<b>UKUPNO</b>	<b>2.045</b>	<b>1.045</b>	<b>1.462</b>	<b>710</b>	<b>252</b>	<b>128</b>	<b>104</b>	<b>62</b>	<b>61</b>	<b>23</b>	<b>166</b>	<b>122</b>	<b>TOTAL</b>
Prirodne nauke	335	172	241	112	51	32	19	12	10	5	14	11	Natural sciences
Inžinjerstvo i tehnologija	654	268	404	148	118	43	20	13	31	9	81	55	Engineering and Technology
Medicinske i zdravstvene nauke	191	114	131	83	23	13	17	9	12	3	8	6	Medical and Health sciences
Poljoprivredne nauke	72	36	56	27	12	6	-	-	4	3	-	-	Agricultural sciences
Društvene nauke	487	264	398	203	40	27	23	12	1	1	25	21	Social sciences
Humanističke nauke	306	191	232	137	8	7	25	16	3	2	38	29	Humanities
Multidisciplinarne nauke	-	-	-	-	-	-	-	-	-	-	-	-	Multidisciplinary sciences
<b>POSLOVNI SEKTOR</b>	<b>257</b>	<b>131</b>	<b>48</b>	<b>20</b>	<b>119</b>	<b>59</b>	<b>25</b>	<b>19</b>	<b>23</b>	<b>10</b>	<b>42</b>	<b>23</b>	<b>BUSINESS SECTOR</b>
Prirodne nauke	56	41	-	-	36	25	11	8	5	4	4	4	Natural sciences
Inžinjerstvo i tehnologija	167	71	29	12	78	29	10	8	16	5	34	17	Engineering and Technology
Medicinske i zdravstvene nauke	2	2	-	-	-	-	-	-	1	1	1	1	Medical and Health sciences
Poljoprivredne nauke	-	-	-	-	-	-	-	-	-	-	-	-	Agricultural sciences
Društvene nauke	-	-	-	-	-	-	-	-	-	-	-	-	Social sciences
Humanističke nauke	32	17	19	8	5	5	4	3	1	-	3	1	Humanities
Multidisciplinarne nauke	-	-	-	-	-	-	-	-	-	-	-	-	Multidisciplinary sciences
<b>VISOKO OBRAZOVANJE</b>	<b>1.700</b>	<b>881</b>	<b>1.381</b>	<b>678</b>	<b>110</b>	<b>60</b>	<b>67</b>	<b>38</b>	<b>27</b>	<b>12</b>	<b>115</b>	<b>93</b>	<b>HIGHER EDUCATION</b>
Prirodne nauke	252	121	232	109	10	6	3	1	2	1	5	4	Natural sciences
Inžinjerstvo i tehnologija	487	197	375	136	40	14	10	5	15	4	47	38	Engineering and Technology
Medicinske i zdravstvene nauke	128	89	107	74	5	5	10	7	3	1	3	2	Medical and Health sciences
Poljoprivredne nauke	72	36	56	27	12	6	-	-	4	3	-	-	Agricultural sciences
Društvene nauke	487	264	398	203	40	27	23	12	1	1	25	21	Social sciences
Humanističke nauke	274	174	213	129	3	2	21	13	2	2	35	28	Humanities
Multidisciplinarne nauke	-	-	-	-	-	-	-	-	-	-	-	-	Multidisciplinary sciences
<b>DRŽAVNI SEKTOR</b>	<b>88</b>	<b>33</b>	<b>33</b>	<b>12</b>	<b>23</b>	<b>9</b>	<b>12</b>	<b>5</b>	<b>11</b>	<b>1</b>	<b>9</b>	<b>6</b>	<b>GOVERNMENT SECTOR</b>
Prirodne nauke	27	10	9	3	5	1	5	3	3	-	5	3	Natural sciences
Inžinjerstvo i tehnologija	-	-	-	-	-	-	-	-	-	-	-	-	Engineering and Technology
Medicinske i zdravstvene nauke	61	23	24	9	18	8	7	2	8	1	4	3	Medical and Health sciences
Poljoprivredne nauke	-	-	-	-	-	-	-	-	-	-	-	-	Agricultural sciences
Društvene nauke	-	-	-	-	-	-	-	-	-	-	-	-	Social sciences
Humanističke nauke	-	-	-	-	-	-	-	-	-	-	-	-	Humanities
Multidisciplinarne nauke	-	-	-	-	-	-	-	-	-	-	-	-	Multidisciplinary sciences
<b>NEPROFITNI SEKTOR</b>	-	-	-	-	-	-	-	-	-	-	-	-	<b>NON-PROFIT SECTOR</b>
Prirodne nauke	-	-	-	-	-	-	-	-	-	-	-	-	Natural sciences
Inžinjerstvo i tehnologija	-	-	-	-	-	-	-	-	-	-	-	-	Engineering and Technology
Medicinske i zdravstvene nauke	-	-	-	-	-	-	-	-	-	-	-	-	Medical and Health sciences
Poljoprivredne nauke	-	-	-	-	-	-	-	-	-	-	-	-	Agricultural sciences
Društvene nauke	-	-	-	-	-	-	-	-	-	-	-	-	Social sciences
Humanističke nauke	-	-	-	-	-	-	-	-	-	-	-	-	Humanities
Multidisciplinarne nauke	-	-	-	-	-	-	-	-	-	-	-	-	Multidisciplinary sciences

### 3. ZAPOSLENI NA POSLOVIMA IR PREMA SEKTORIMA I NAUČNOJ OBLASTI, IZRAŽENI EKVIVALENTOM PUNE ZAPOSLENOSTI U 2018.

PERSONS ENGAGED IN R&D BY SECTOR AND FIELD OF SCIENCE, EXPRESSED IN FULL-TIME EQUIVALENT, 2018

	Ukupno		Istraživači		Stručni saradnici		Tehničko osoblje		Rukovodeće osoblje		Ostalo osoblje		
	Total		Researchers		Research		Technicians		Management		Other		
	svoga all	žene female	svoga all	žene female	svoga all	žene female	svoga all	žene female	svoga all	žene female	svoga all	žene female	
<b>UKUPNO</b>	<b>1.624,30</b>	<b>834,60</b>	<b>1.224,30</b>	<b>592,70</b>	<b>141,60</b>	<b>76,10</b>	<b>75,90</b>	<b>50,80</b>	<b>44,50</b>	<b>19,30</b>	<b>138,00</b>	<b>95,70</b>	<b>TOTAL</b>
Prirodne nauke	276,20	132,10	186,50	75,50	48,50	30,50	19,00	12,00	10,00	5,00	12,20	9,10	Natural sciences
Inženjerstvo i tehnologija	516,80	219,10	358,70	136,10	58,10	24,70	14,20	11,40	21,70	6,90	64,10	40,00	Engineering and Technology
Medicina i zdravstvo	117,30	84,60	83,70	63,60	10,40	7,40	12,80	7,80	5,60	2,20	4,80	3,60	Medical and Health sciences
Poljoprivreda	60,60	29,00	54,80	25,80	2,60	1,00	-	-	3,20	2,20	-	-	Agricultural sciences
Drustvene nauke	350,50	181,40	309,60	155,20	14,00	5,50	7,00	5,70	1,00	1,00	18,90	14,00	Social sciences
Humanisticke nauke	302,90	188,40	231,00	136,50	8,00	7,00	22,90	13,90	3,00	2,00	38,00	29,00	Humanities
Multidisciplinarne nauke	-	-	-	-	-	-	-	-	-	-	-	-	Multidisciplinary sciences
<b>POSLOVNI SEKTOR</b>	<b>203,00</b>	<b>111,20</b>	<b>45,20</b>	<b>18,10</b>	<b>79,40</b>	<b>47,70</b>	<b>20,70</b>	<b>15,30</b>	<b>16,50</b>	<b>7,90</b>	<b>41,20</b>	<b>22,20</b>	<b>BUSINESS SECTOR</b>
Prirodne nauke	56,00	41,00	-	-	36,00	25,00	11,00	8,00	5,00	4,00	4,00	4,00	Natural sciences
Inženjerstvo i tehnologija	116,10	53,80	27,20	10,60	38,40	17,70	7,80	6,40	9,50	2,90	33,20	16,20	Engineering and Technology
Medicina i zdravstvo	2,00	2,00	-	-	-	-	-	-	1,00	1,00	1,00	1,00	Medical and Health sciences
Poljoprivreda	-	-	-	-	-	-	-	-	-	-	-	-	Agricultural sciences
Drustvene nauke	-	-	-	-	-	-	-	-	-	-	-	-	Social sciences
Humanisticke nauke	28,90	14,40	18,00	7,50	5,00	5,00	1,90	0,90	1,00	-	3,00	1,00	Humanities
Multidisciplinarne nauke	-	-	-	-	-	-	-	-	-	-	-	-	Multidisciplinary sciences
<b>VISOKOSKOLSKE USTANOVE</b>	<b>1.376,50</b>	<b>706,70</b>	<b>1.162,90</b>	<b>568,90</b>	<b>51,80</b>	<b>25,00</b>	<b>47,40</b>	<b>31,70</b>	<b>23,40</b>	<b>11,20</b>	<b>91,00</b>	<b>69,90</b>	<b>HIGHER EDUCATION</b>
Prirodne nauke	193,20	81,10	177,50	72,50	7,50	4,50	3,00	1,00	2,00	1,00	3,20	2,10	Natural sciences
Inženjerstvo i tehnologija	400,70	165,30	331,50	125,50	19,70	7,00	6,40	5,00	12,20	4,00	30,90	23,80	Engineering and Technology
Medicina i zdravstvo	97,50	75,90	76,50	60,90	5,00	5,00	10,00	7,00	3,00	1,00	3,00	2,00	Medical and Health sciences
Poljoprivreda	60,60	29,00	54,80	25,80	2,60	1,00	-	-	3,20	2,20	-	-	Agricultural sciences
Drustvene nauke	350,50	181,40	309,60	155,20	14,00	5,50	7,00	5,70	1,00	1,00	18,90	14,00	Social sciences
Humanisticke nauke	274,00	174,00	213,00	129,00	3,00	2,00	21,00	13,00	2,00	2,00	35,00	28,00	Humanities
Multidisciplinarne nauke	-	-	-	-	-	-	-	-	-	-	-	-	Multidisciplinary sciences
<b>DRŽAVNI SEKTOR</b>	<b>44,80</b>	<b>16,70</b>	<b>16,20</b>	<b>5,70</b>	<b>10,40</b>	<b>3,40</b>	<b>7,80</b>	<b>3,80</b>	<b>4,60</b>	<b>0,20</b>	<b>5,80</b>	<b>3,60</b>	<b>GOVERNMENT SECTOR</b>
Prirodne nauke	27,00	10,00	9,00	3,00	5,00	1,00	5,00	3,00	3,00	-	5,00	3,00	Natural sciences
Inženjerstvo i tehnologija	-	-	-	-	-	-	-	-	-	-	-	-	Engineering and Technology
Medicina i zdravstvo	17,80	6,70	7,20	2,70	5,40	2,40	2,80	0,80	1,60	0,20	0,80	0,60	Medical and Health sciences
Poljoprivreda	-	-	-	-	-	-	-	-	-	-	-	-	Agricultural sciences
Drustvene nauke	-	-	-	-	-	-	-	-	-	-	-	-	Social sciences
Humanisticke nauke	-	-	-	-	-	-	-	-	-	-	-	-	Humanities
Multidisciplinarne nauke	-	-	-	-	-	-	-	-	-	-	-	-	Multidisciplinary sciences
<b>NEPROFITNE ORGANIZACIJE</b>	-	-	-	-	-	-	-	-	-	-	-	-	<b>NON-PROFIT SECTOR</b>
Prirodne nauke	-	-	-	-	-	-	-	-	-	-	-	-	Natural sciences
Inženjerstvo i tehnologija	-	-	-	-	-	-	-	-	-	-	-	-	Engineering and Technology
Medicina i zdravstvo	-	-	-	-	-	-	-	-	-	-	-	-	Medical and Health sciences
Poljoprivreda	-	-	-	-	-	-	-	-	-	-	-	-	Agricultural sciences
Drustvene nauke	-	-	-	-	-	-	-	-	-	-	-	-	Social sciences
Humanisticke nauke	-	-	-	-	-	-	-	-	-	-	-	-	Humanities
Multidisciplinarne nauke	-	-	-	-	-	-	-	-	-	-	-	-	Multidisciplinary sciences

**4. ISTRAŽIVAČI ZAPOSLENI NA POSLOVIMA IR PREMA GODINAMA STAROSTI I POLU U 2018.**  
**RESEARCHERS ENGAGED IN R&D BY AGE AND SEX, 2018**

	Ukupno/ Total		Poslovni sektor <i>Business sector</i>		Visoko obrazovanje <i>Higher education</i>		Državni sektor <i>Government sector</i>		Neprofitni sektor <i>Non - profit sector</i>		
	svega/ all	žene/ female	svega/ all	žene/ female	svega/ all	žene/ female	svega/ all	žene/ female	svega/ all	žene/ female	
<b>UKUPNO</b>	<b>1.462</b>	<b>710</b>	<b>48</b>	<b>20</b>	<b>1.381</b>	<b>678</b>	<b>33</b>	<b>12</b>	-	-	<b>TOTAL</b>
manje od 25	15	8	-	-	12	8	3	-	-	-	<i>under 25</i>
25-29	94	64	4	2	83	59	7	3	-	-	<i>25-29</i>
30-34	174	107	9	3	157	101	8	3	-	-	<i>30-34</i>
35-39	237	134	11	8	223	124	3	2	-	-	<i>35-39</i>
40-44	261	135	7	4	251	131	3	-	-	-	<i>40-44</i>
45-49	228	106	7	1	219	104	2	1	-	-	<i>45-49</i>
50-54	224	89	3	2	218	85	3	2	-	-	<i>50-54</i>
55-59	103	33	5	-	94	32	4	1	-	-	<i>55-59</i>
60-64	91	30	2	-	89	30	-	-	-	-	<i>60-64</i>
65-69	29	4	-	-	29	4	-	-	-	-	<i>65-69</i>
70 i više	6	-	-	-	6	-	-	-	-	-	<i>70 and older</i>

**5. ANGAŽOVANI NA OSNOVU UGOVORA O DJELU ILI AUTORSKOG UGOVORA, NA POSLOVIMA IR PREMA SEKTORIMA I POLU U 2018.**

*PERSONS HIRED UNDER TEMPORARY SERVICE CONTRACTS AND COPYRIGHT AGREEMENTS IN R&D BY SECTOR AND SEX, 2018*

	Ukupno <i>Total</i>				Sa punim radnim vremenom <i>Working full-time</i>		Sa kraćim od punog radnog vremena <i>Working part-time</i>				
	ukupno <i>total</i>		u ekvivalentu pune zaposlenosti <i>in full-time equivalent</i>				ukupno <i>total</i>		u ekvivalentu pune zaposlenosti <i>in full-time equivalent</i>		
	svega/ all	žene/ female	svega/ all	žene/ female	svega/ / all	žene/ female	svega/ all	žene/ female	svega/ all	žene/ female	
<b>UKUPNO</b>	<b>291</b>	<b>102</b>	<b>118,80</b>	<b>34,70</b>	<b>59</b>	<b>13</b>	<b>232</b>	<b>89</b>	<b>59,80</b>	<b>21,70</b>	<b>TOTAL</b>
Istraživači	151	55	59,70	15,30	32	5	119	50	27,70	10,30	<i>Researchers</i>
Stručni saradnici	120	38	52,20	16,60	27	8	93	30	25,20	8,60	<i>Research associates</i>
Tehničko osoblje	9	3	3,50	1,00	-	-	9	3	3,50	1,00	<i>Technicians</i>
Rukovodeće osoblje	6	2	1,80	0,70	-	-	6	2	1,80	0,70	<i>Managers</i>
Ostalo osoblje	5	4	1,60	1,10	-	-	5	4	1,60	1,10	<i>Other supporting staff</i>
<b>POSLOVNI SEKTOR</b>	<b>58</b>	<b>10</b>	<b>42,40</b>	<b>7,50</b>	<b>32</b>	<b>5</b>	<b>26</b>	<b>5</b>	<b>10,40</b>	<b>2,50</b>	<b>BUSINESS SECTOR</b>
Istraživači	42	7	36,80	6,00	32	5	10	2	4,80	1,00	<i>Researchers</i>
Stručni saradnici	11	1	3,10	0,50	-	-	11	1	3,10	0,50	<i>Research associates</i>
Tehničko osoblje	1	-	0,50	-	-	-	1	-	0,50	-	<i>Technicians</i>
Rukovodeće osoblje	2	1	1,00	0,50	-	-	2	1	1,00	0,50	<i>Managers</i>
Ostalo osoblje	2	1	1,00	0,50	-	-	2	1	1,00	0,50	<i>Other supporting staff</i>
<b>VISOKO OBRAZOVANJ</b>	<b>195</b>	<b>77</b>	<b>65,00</b>	<b>22,90</b>	<b>27</b>	<b>8</b>	<b>168</b>	<b>69</b>	<b>38,00</b>	<b>14,90</b>	<b>HIGHER EDUCATION</b>
Istraživači	96	43	19,00	7,80	-	-	96	43	19,00	7,80	<i>Researchers</i>
Stručni saradnici	98	33	45,80	14,90	27	8	71	25	18,80	6,90	<i>Research associates</i>
Tehničko osoblje	1	1	0,20	0,20	-	-	1	1	0,20	0,20	<i>Technicians</i>
Rukovodeće osoblje	-	-	-	-	-	-	-	-	-	-	<i>Managers</i>
Ostalo osoblje	-	-	-	-	-	-	-	-	-	-	<i>Other supporting staff</i>
<b>DRŽAVNI SEKTOR</b>	<b>38</b>	<b>15</b>	<b>11,40</b>	<b>4,30</b>	-	-	<b>38</b>	<b>15</b>	<b>11,40</b>	<b>4,30</b>	<b>GOVERNMENT</b>
Istraživači	13	5	3,90	1,50	-	-	13	5	3,90	1,50	<i>Researchers</i>
Stručni saradnici	11	4	3,30	1,20	-	-	11	4	3,30	1,20	<i>Research associates</i>
Tehničko osoblje	7	2	2,80	0,80	-	-	7	2	2,80	0,80	<i>Technicians</i>
Rukovodeće osoblje	4	1	0,80	0,20	-	-	4	1	0,80	0,20	<i>Managers</i>
Ostalo osoblje	3	3	0,60	0,60	-	-	3	3	0,60	0,60	<i>Other supporting staff</i>
<b>NEPROFITNI SEKTOR</b>	-	-	-	-	-	-	-	-	-	-	<b>NON-PROFIT SECTOR</b>
Istraživači	-	-	-	-	-	-	-	-	-	-	<i>Researchers</i>
Stručni saradnici	-	-	-	-	-	-	-	-	-	-	<i>Research associates</i>
Tehničko osoblje	-	-	-	-	-	-	-	-	-	-	<i>Technicians</i>
Rukovodeće osoblje	-	-	-	-	-	-	-	-	-	-	<i>Managers</i>
Ostalo osoblje	-	-	-	-	-	-	-	-	-	-	<i>Other supporting staff</i>

**6. ANGAŽOVANI NA OSNOVU UGOVORA O DJELU ILI AUTORSKOG UGOVORA, NA POSLOVIMA IZ PREMA SEKTORIMA I NAUČNOJ OBLASTI U 2018.**

PERSONS HIRED UNDER TEMPORARY SERVICE CONTRACTS AND COPYRIGHT AGREEMENTS IN R&D BY SECTOR AND FIELD OF SCIENCE, 2018

	Ukupno		Istraživači		Stručni saradnici		Tehničko osoblje		Rukovodeće osoblje		Ostalo osoblje		
	Total		Researchers		Research associates		Technicians		Management		Other supporting staff		
	svoga/ all	žene/ female	svoga/ all	žene/ female	svoga / all	žene/ female	svoga/ all	žene/ female	svoga/ all	žene/ female	svoga/ all	žene/ female	
<b>UKUPNO</b>	<b>291</b>	<b>102</b>	<b>151</b>	<b>55</b>	<b>120</b>	<b>38</b>	<b>9</b>	<b>3</b>	<b>6</b>	<b>2</b>	<b>5</b>	<b>4</b>	<b>TOTAL</b>
Prirodne nauke	6	1	6	1	-	-	-	-	-	-	-	-	Natural sciences
Inženjerstvo i tehnologija	119	34	45	9	69	23	1	-	2	1	2	1	Engineering and Technology
Medicinske i zdravstvene nauke	38	15	13	5	11	4	7	2	4	1	3	3	Medical and Health sciences
Poljoprivredne nauke	36	11	22	7	13	3	1	1	-	-	-	-	Agricultural sciences
Društvene nauke	91	41	64	33	27	8	-	-	-	-	-	-	Social sciences
Humanističke nauke	1	-	1	-	-	-	-	-	-	-	-	-	Humanities
Multidisciplinarne nauke	-	-	-	-	-	-	-	-	-	-	-	-	Multidisciplinary sciences
<b>POSLOVNI SEKTOR</b>	<b>58</b>	<b>10</b>	<b>42</b>	<b>7</b>	<b>11</b>	<b>1</b>	<b>1</b>	<b>-</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>BUSINESS SECTOR</b>
Prirodne nauke	6	1	6	1	-	-	-	-	-	-	-	-	Natural sciences
Inženjerstvo i tehnologija	51	9	35	6	11	1	1	-	2	1	2	1	Engineering and Technology
Medicinske i zdravstvene nauke	-	-	-	-	-	-	-	-	-	-	-	-	Medical and Health sciences
Poljoprivredne nauke	-	-	-	-	-	-	-	-	-	-	-	-	Agricultural sciences
Društvene nauke	-	-	-	-	-	-	-	-	-	-	-	-	Social sciences
Humanističke nauke	1	-	1	-	-	-	-	-	-	-	-	-	Humanities
Multidisciplinarne nauke	-	-	-	-	-	-	-	-	-	-	-	-	Multidisciplinary sciences
<b>VISOKO OBRAZOVANJE</b>	<b>195</b>	<b>77</b>	<b>96</b>	<b>43</b>	<b>98</b>	<b>33</b>	<b>1</b>	<b>1</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>HIGHER EDUCATION</b>
Prirodne nauke	-	-	-	-	-	-	-	-	-	-	-	-	Natural sciences
Inženjerstvo i tehnologija	68	25	10	3	58	22	-	-	-	-	-	-	Engineering and Technology
Medicinske i zdravstvene nauke	-	-	-	-	-	-	-	-	-	-	-	-	Medical and Health sciences
Poljoprivredne nauke	36	11	22	7	13	3	1	1	-	-	-	-	Agricultural sciences
Društvene nauke	91	41	64	33	27	8	-	-	-	-	-	-	Social sciences
Humanističke nauke	-	-	-	-	-	-	-	-	-	-	-	-	Humanities
Multidisciplinarne nauke	-	-	-	-	-	-	-	-	-	-	-	-	Multidisciplinary sciences
<b>DRŽAVNI SEKTOR</b>	<b>38</b>	<b>15</b>	<b>13</b>	<b>5</b>	<b>11</b>	<b>4</b>	<b>7</b>	<b>2</b>	<b>4</b>	<b>1</b>	<b>3</b>	<b>3</b>	<b>GOVERNMENT SECTOR</b>
Prirodne nauke	-	-	-	-	-	-	-	-	-	-	-	-	Natural sciences
Inženjerstvo i tehnologija	-	-	-	-	-	-	-	-	-	-	-	-	Engineering and Technology
Medicinske i zdravstvene nauke	38	15	13	5	11	4	7	2	4	1	3	3	Medical and Health sciences
Poljoprivredne nauke	-	-	-	-	-	-	-	-	-	-	-	-	Agricultural sciences
Društvene nauke	-	-	-	-	-	-	-	-	-	-	-	-	Social sciences
Humanističke nauke	-	-	-	-	-	-	-	-	-	-	-	-	Humanities
Multidisciplinarne nauke	-	-	-	-	-	-	-	-	-	-	-	-	Multidisciplinary sciences
<b>NEPROFITNI SEKTOR</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>NON-PROFIT SECTOR</b>
Prirodne nauke	-	-	-	-	-	-	-	-	-	-	-	-	Natural sciences
Inženjerstvo i tehnologija	-	-	-	-	-	-	-	-	-	-	-	-	Engineering and Technology
Medicinske i zdravstvene nauke	-	-	-	-	-	-	-	-	-	-	-	-	Medical and Health sciences
Poljoprivredne nauke	-	-	-	-	-	-	-	-	-	-	-	-	Agricultural sciences
Društvene nauke	-	-	-	-	-	-	-	-	-	-	-	-	Social sciences
Humanističke nauke	-	-	-	-	-	-	-	-	-	-	-	-	Humanities
Multidisciplinarne nauke	-	-	-	-	-	-	-	-	-	-	-	-	Multidisciplinary sciences

**7. ANGAŽOVANI NA OSNOVU UGOVORA O DJELU ILI AUTORSKOG UGOVORA, NA POSLOVIMA IR PREMA SEKTORIMA I NAUČNOJ OBLASTI, IZRAŽENI EKIVALENTOM PUNE ZAPOSLENOSTI U 2018.**

*PERSONS HIRED UNDER TEMPORARY SERVICE CONTRACTS AND COPYRIGHT AGREEMENTS IN R&D BY SECTOR AND FIELD OF SCIENCE, IN FULL TIME EQUIVALENT, 2018*

	Ukupno		Istraživači		Stručni saradnici		Tehničko osoblje		Rukovodeće osoblje		Ostalo osoblje		
	Total		Researchers		Research associates		Technicians		Management		Other supporting staff		
	svega all	žene female	svega all	žene female	svega all	žene female	svega all	žene female	svega all	žene female	svega all	žene female	
<b>UKUPNO</b>	<b>118,80</b>	<b>34,70</b>	<b>59,70</b>	<b>15,30</b>	<b>52,20</b>	<b>16,60</b>	<b>3,50</b>	<b>1,00</b>	<b>1,80</b>	<b>0,70</b>	<b>1,60</b>	<b>1,10</b>	<b>TOTAL</b>
Prirodne nauke	6,00	1,00	6,00	1,00	-	-	-	-	-	-	-	-	Natural sciences
Inženjerstvo i tehnologija	56,50	14,00	33,50	5,90	20,50	7,10	0,50	-	1,00	0,50	1,00	0,50	Engineering and Technology
Medicinske i zdravstvene nauke	11,40	4,30	3,90	1,50	3,30	1,20	2,80	0,80	0,80	0,20	0,60	0,60	Medical and Health sciences
Poljoprivredne nauke	10,10	3,30	8,50	2,80	1,40	0,30	0,20	0,20	-	-	-	-	Agricultural sciences
Društvene nauke	34,50	12,10	7,50	4,10	27,00	8,00	-	-	-	-	-	-	Social sciences
Humanističke nauke	0,30	-	0,30	-	-	-	-	-	-	-	-	-	Humanities
Multidisciplinane nauke	-	-	-	-	-	-	-	-	-	-	-	-	Multidisciplinary sciences
<b>POSLOVNI SEKTOR</b>	<b>42,40</b>	<b>7,50</b>	<b>36,80</b>	<b>6,00</b>	<b>3,10</b>	<b>0,50</b>	<b>0,50</b>	<b>-</b>	<b>1,00</b>	<b>0,50</b>	<b>1,00</b>	<b>0,50</b>	<b>BUSINESS SECTOR</b>
Prirodne nauke	6,00	1,00	6,00	1,00	-	-	-	-	-	-	-	-	Natural sciences
Inženjerstvo i tehnologija	36,10	6,50	30,50	5,00	3,10	0,50	0,50	-	1,00	0,50	1,00	0,50	Engineering and Technology
Medicinske i zdravstvene nauke	-	-	-	-	-	-	-	-	-	-	-	-	Medical and Health sciences
Poljoprivredne nauke	-	-	-	-	-	-	-	-	-	-	-	-	Agricultural sciences
Društvene nauke	-	-	-	-	-	-	-	-	-	-	-	-	Social sciences
Humanističke nauke	0,30	-	0,30	-	-	-	-	-	-	-	-	-	Humanities
Multidisciplinane nauke	-	-	-	-	-	-	-	-	-	-	-	-	Multidisciplinary sciences
<b>VISOKO OBRAZOVANJE</b>	<b>65,00</b>	<b>22,90</b>	<b>19,00</b>	<b>7,80</b>	<b>45,80</b>	<b>14,90</b>	<b>0,20</b>	<b>0,20</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>HIGHER EDUCATION</b>
Prirodne nauke	-	-	-	-	-	-	-	-	-	-	-	-	Natural sciences
Inženjerstvo i tehnologija	20,40	7,50	3,00	0,90	17,40	6,60	-	-	-	-	-	-	Engineering and Technology
Medicinske i zdravstvene nauke	-	-	-	-	-	-	-	-	-	-	-	-	Medical and Health sciences
Poljoprivredne nauke	10,10	3,30	8,50	2,80	1,40	0,30	0,20	0,20	-	-	-	-	Agricultural sciences
Društvene nauke	34,50	12,10	7,50	4,10	27,00	8,00	-	-	-	-	-	-	Social sciences
Humanističke nauke	-	-	-	-	-	-	-	-	-	-	-	-	Humanities
Multidisciplinane nauke	-	-	-	-	-	-	-	-	-	-	-	-	Multidisciplinary sciences
<b>DRŽAVNI SEKTOR</b>	<b>11,40</b>	<b>4,30</b>	<b>3,90</b>	<b>1,50</b>	<b>3,30</b>	<b>1,20</b>	<b>2,80</b>	<b>0,80</b>	<b>0,80</b>	<b>0,20</b>	<b>0,60</b>	<b>0,60</b>	<b>GOVERNMENT SECTOR</b>
Prirodne nauke	-	-	-	-	-	-	-	-	-	-	-	-	Natural sciences
Inženjerstvo i tehnologija	-	-	-	-	-	-	-	-	-	-	-	-	Engineering and Technology
Medicinske i zdravstvene nauke	11,40	4,30	3,90	1,50	3,30	1,20	2,80	0,80	0,80	0,20	0,60	0,60	Medical and Health sciences
Poljoprivredne nauke	-	-	-	-	-	-	-	-	-	-	-	-	Agricultural sciences
Društvene nauke	-	-	-	-	-	-	-	-	-	-	-	-	Social sciences
Humanističke nauke	-	-	-	-	-	-	-	-	-	-	-	-	Humanities
Multidisciplinane nauke	-	-	-	-	-	-	-	-	-	-	-	-	Multidisciplinary sciences
<b>NEPROFITNI SEKTOR</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>NON-PROFIT SECTOR</b>
Prirodne nauke	-	-	-	-	-	-	-	-	-	-	-	-	Natural sciences
Inženjerstvo i tehnologija	-	-	-	-	-	-	-	-	-	-	-	-	Engineering and Technology
Medicinske i zdravstvene nauke	-	-	-	-	-	-	-	-	-	-	-	-	Medical and Health sciences
Poljoprivredne nauke	-	-	-	-	-	-	-	-	-	-	-	-	Agricultural sciences
Društvene nauke	-	-	-	-	-	-	-	-	-	-	-	-	Social sciences
Humanističke nauke	-	-	-	-	-	-	-	-	-	-	-	-	Humanities
Multidisciplinane nauke	-	-	-	-	-	-	-	-	-	-	-	-	Multidisciplinary sciences



**8. BRUTO DOMAĆI IZDACI ZA IR PREMA SEKTORIMA, NAUČNOJ OBLASTI I VRSTI TROŠKOVA U 2018.**

GROSS DOMESTIC EXPENDITURE FOR R&amp;D BY SECTOR, FIELD OF SCIENCE AND TYPE OF COSTS, 2018

u hilj./thousand KM

	Bruto domaći izdaci Gross domestic expenditure	Tekući izdaci Current expenditures			Investicioni izdaci Capital expenditure	
		ukupno total	troškovi rada labour costs	ostali tekući troškovi other current costs		
<b>UKUPNO</b>	<b>38.881</b>	<b>34.175</b>	<b>28.518</b>	<b>5.657</b>	<b>4.706</b>	<b>TOTAL</b>
Prirodne nauke	12.030	11.646	10.139	1.507	384	Natural sciences
Inženjstvo i tehnologija	11.360	8.667	7.105	1.562	2.693	Engineering and Technology
Medicinske i zdravstvene nauke	2.096	1.267	338	929	829	Medical and Health sciences
Poljoprivredne nauke	792	667	398	269	125	Agricultural sciences
Društvene nauke	5.120	4.534	3.892	642	586	Social sciences
Humanističke nauke	7.483	7.394	6.646	748	89	Humanities
Multidisciplinarnе nauke	-	-	-	-	-	Multidisciplinary sciences
<b>POSLOVNI SEKTOR</b>	<b>11.490</b>	<b>8.902</b>	<b>6.690</b>	<b>2.212</b>	<b>2.588</b>	<b>BUSINESS SECTOR</b>
Prirodne nauke	3.095	2.965	1.793	1.172	130	Natural sciences
Inženjstvo i tehnologija	7.459	5.001	4.015	986	2.458	Engineering and Technology
Medicinske i zdravstvene nauke	294	294	253	41	-	Medical and Health sciences
Poljoprivredne nauke	-	-	-	-	-	Agricultural sciences
Društvene nauke	-	-	-	-	-	Social sciences
Humanističke nauke	642	642	629	13	-	Humanities
Multidisciplinarnе nauke	-	-	-	-	-	Multidisciplinary sciences
<b>VISOKO OBRAZOVANJE</b>	<b>26.096</b>	<b>24.023</b>	<b>20.937</b>	<b>3.086</b>	<b>2.073</b>	<b>HIGHER EDUCATION</b>
Prirodne nauke	7.890	7.651	7.485	166	239	Natural sciences
Inženjstvo i tehnologija	3.901	3.666	3.090	576	235	Engineering and Technology
Medicinske i zdravstvene nauke	1.552	753	55	698	799	Medical and Health sciences
Poljoprivredne nauke	792	667	398	269	125	Agricultural sciences
Društvene nauke	5.120	4.534	3.892	642	586	Social sciences
Humanističke nauke	6.841	6.752	6.017	735	89	Humanities
Multidisciplinarnе nauke	-	-	-	-	-	Multidisciplinary sciences
<b>DRŽAVNI SEKTOR</b>	<b>1.295</b>	<b>1.250</b>	<b>891</b>	<b>359</b>	<b>45</b>	<b>GOVERNMENT SECTOR</b>
Prirodne nauke	1.045	1.030	861	169	15	Natural sciences
Inženjstvo i tehnologija	-	-	-	-	-	Engineering and Technology
Medicinske i zdravstvene nauke	250	220	30	190	30	Medical and Health sciences
Poljoprivredne nauke	-	-	-	-	-	Agricultural sciences
Društvene nauke	-	-	-	-	-	Social sciences
Humanističke nauke	-	-	-	-	-	Humanities
Multidisciplinarnе nauke	-	-	-	-	-	Multidisciplinary sciences
<b>NEPROFITNI SEKTOR</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>NON-PROFIT SECTOR</b>
Prirodne nauke	-	-	-	-	-	Natural sciences
Inženjstvo i tehnologija	-	-	-	-	-	Engineering and Technology
Medicinske i zdravstvene nauke	-	-	-	-	-	Medical and Health sciences
Poljoprivredne nauke	-	-	-	-	-	Agricultural sciences
Društvene nauke	-	-	-	-	-	Social sciences
Humanističke nauke	-	-	-	-	-	Humanities
Multidisciplinarnе nauke	-	-	-	-	-	Multidisciplinary sciences

**9. IZVORI FINANSIJSKIH SREDSTAVA UTROŠENIH ZA IR U 2018.**

SOURCES OF FINANCIAL FUNDS SPENT ON R&amp;D, 2018

u hilj./thousand KM

	Ukupno <i>Total</i>	Poslovni sektor <i>Business sector</i>	Visoko obrazovanje <i>Higher education</i>	Državni sektor <i>Government sector</i>	Neprofitni sektor <i>Non - profit sector</i>	
<b>UKUPNO</b>	<b>38.881</b>	<b>11.490</b>	<b>26.096</b>	<b>1.295</b>	<b>-</b>	<b>TOTAL</b>
<b>Finansijska sredstva iz Federacije BiH</b>	<b>34.769</b>	<b>9.784</b>	<b>23.927</b>	<b>1.058</b>	<b>-</b>	<b>FUNDS OF FB&amp;H</b>
Budžetska sredstva namijenjena za IR	22.776	1.157	20.561	1.058	-	<i>Government funds intended for R&amp;D</i>
Sredstva od fondova, agencija i fondacija FBiH	86	-	86	-	-	<i>Funds of funds, agencies and foundations in FB&amp;H</i>
Sredstva od lokalnih zajednica	529	-	529	-	-	<i>Funds of local communities</i>
Sredstva od poslovnih subjekata	760	402	358	-	-	<i>Funds of business subjects</i>
Sredstva od neprofitnih organizacija FBiH	-	-	-	-	-	<i>Funds of non-profit organisations in FB&amp;H</i>
Sredstva od патената, licenci i slično	2.264	818	1.446	-	-	<i>Funds from patents, licenses, etc. (from sale in FB&amp;H)</i>
Ostala sopstvena sredstva	8.354	7.407	947	-	-	<i>Other own funds</i>
<b>Sredstva zajedničkih institucija BiH</b>	<b>10</b>	<b>-</b>	<b>10</b>	<b>-</b>	<b>-</b>	<b>FUNDS OF COMMON INSTITUTIONS OF BIH</b>
Sredstva od ministarstava	-	-	-	-	-	<i>Funds of Ministries of B&amp;H</i>
Sredstva od fondova, agencija i fondacija BiH	-	-	-	-	-	<i>Funds of funds, agencies and foundations in B&amp;H</i>
<b>Finansijska sredstva iz RS ili BD</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>FUNDS OF THE Republika Srpska or BD</b>
Sredstva od ministarstava iz RS ili DB	-	-	-	-	-	<i>Funds of Ministries of the Republika Srpska or BD</i>
Sredstva od poslovnih subjekata iz RS ili DB	-	-	-	-	-	<i>Funds of business subjects</i>
Ostali izvori sredstava iz RS ili DB	4.102	1.706	2.159	237	-	<i>Other sources of funds</i>
<b>Finansijska sredstva iz inozemstva</b>	<b>4.371</b>	<b>894</b>	<b>3.317</b>	<b>160</b>	<b>-</b>	<b>FUNDS FROM ABROAD</b>

**10. SREDSTVA ZA ISTRAŽIVANJE I RAZVOJ PREMA PRIMARNIM DRUŠTVENO-EKONOMSKIM CILJEVIMA U 2018.**

RESOURCES FOR R&D BY MAJOR SOCIO-ECONOMIC GOALS, 2018

u hilj./thousand KM

	Ukupno <i>Total</i>	Poslovni sektor <i>Business sector</i>	Visoko obrazova nje <i>Higher education</i>	Državni sektor <i>Government sector</i>	Neprofitni sektor <i>Non - profit sector</i>	
<b>Ukupno</b>	<b>38.881</b>	<b>11.490</b>	<b>26.096</b>	<b>1.295</b>	<b>-</b>	<b>TOTAL</b>
Istraživanje i eksploatacija Zemlje	1.045	-	-	1.045	-	<i>Exploration and exploitation of the Earth</i>
Očuvanje životne sredine	190	70	120	-	-	<i>Environment</i>
Istraživanje i eksploatacija svemira	-	-	-	-	-	<i>Exploration and exploitation of space</i>
Transport, telekomunikacije i ostale infrastrukture	729	729	-	-	-	<i>Transport, telecommunication and</i>
Energija	3.421	3.421	-	-	-	<i>Energy</i>
Industrijska proizvodnja i tehnologija	901	651	-	250	-	<i>Industrial production and technology</i>
Zdravstvo	4.879	3.389	1.490	-	-	<i>Health</i>
Poljoprivreda	87	-	87	-	-	<i>Agriculture</i>
Obrazovanje	21.648	-	21.648	-	-	<i>Education</i>
Kultura, rekreacija, religija i masovni mediji	647	642	5	-	-	<i>Culture, recreation, religion and mass media</i>
Politički i društveni sistemi, strukture i procesi	-	-	-	-	-	<i>Political and social systems, structures and processes</i>
Opšte unapređenje znanja	4.814	2.068	2.746	-	-	<i>General advancement of</i>
Obrana	520	520	-	-	-	<i>Defense</i>

**11. BROJ ISTRAŽIVAČKO-RAZVOJNIH RADOVA PREMA NAUČNOJ OBLASTI I VRSTI ISTRAŽIVANJA, 2018.**

NUMBER OF R&amp;D WORKS BY FIELD OF SCIENCE AND TYPE OF RESEARCH, 2018

	Ukupno Total	Vrsta istraživanja Type of research			
		fundamentalna <i>fundamental</i>	primjenjena <i>applied</i>	razvojna <i>experimental development</i>	
<b>UKUPNO</b>	<b>998</b>	<b>331</b>	<b>462</b>	<b>205</b>	<b>TOTAL</b>
Prirodne nauke	43	9	9	25	<i>Natural sciences</i>
Inženjstvo i tehnologija	329	77	216	36	<i>Engineering and Technology</i>
Medicinske i zdravstvene nauke	52	7	24	21	<i>Medical and Health sciences</i>
Poljoprivredne nauke	389	89	180	120	<i>Agricultural sciences</i>
Društvene nauke	128	103	23	2	<i>Social sciences</i>
Humanističke nauke	36	27	9	-	<i>Humanities</i>
Multidisciplinarne nauke	21	19	1	1	<i>Multidisciplinary sciences</i>
<b>POSLOVNI SEKTOR</b>	<b>94</b>	<b>13</b>	<b>26</b>	<b>55</b>	<b>BUSINESS SECTOR</b>
Prirodne nauke	24	-	-	24	<i>Natural sciences</i>
Inženjstvo i tehnologija	29	-	17	12	<i>Engineering and Technology</i>
Medicinske i zdravstvene nauke	25	-	6	19	<i>Medical and Health sciences</i>
Poljoprivredne nauke	-	-	-	-	<i>Agricultural sciences</i>
Društvene nauke	10	7	3	-	<i>Social sciences</i>
Humanističke nauke	6	6	-	-	<i>Humanities</i>
Multidisciplinarne nauke	-	-	-	-	<i>Multidisciplinary sciences</i>
<b>VISOKO OBRAZOVANJE</b>	<b>888</b>	<b>313</b>	<b>427</b>	<b>148</b>	<b>HIGHER EDUCATION</b>
Prirodne nauke	12	7	4	1	<i>Natural sciences</i>
Inženjstvo i tehnologija	300	77	199	24	<i>Engineering and Technology</i>
Medicinske i zdravstvene nauke	18	4	14	-	<i>Medical and Health sciences</i>
Poljoprivredne nauke	389	89	180	120	<i>Agricultural sciences</i>
Društvene nauke	118	96	20	2	<i>Social sciences</i>
Humanističke nauke	30	21	9	-	<i>Humanities</i>
Multidisciplinarne nauke	21	19	1	1	<i>Multidisciplinary sciences</i>
<b>DRŽAVNI SEKTOR</b>	<b>16</b>	<b>5</b>	<b>9</b>	<b>2</b>	<b>GOVERNMENT SECTOR</b>
Prirodne nauke	7	2	5	-	<i>Natural sciences</i>
Inženjstvo i tehnologija	-	-	-	-	<i>Engineering and Technology</i>
Medicinske i zdravstvene nauke	9	3	4	2	<i>Medical and Health sciences</i>
Poljoprivredne nauke	-	-	-	-	<i>Agricultural sciences</i>
Društvene nauke	-	-	-	-	<i>Social sciences</i>
Humanističke nauke	-	-	-	-	<i>Humanities</i>
Multidisciplinarne nauke	-	-	-	-	<i>Multidisciplinary sciences</i>
<b>NEPROFITNI SEKTOR</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>NON-PROFIT SECTOR</b>
Prirodne nauke	-	-	-	-	<i>Natural sciences</i>
Inženjstvo i tehnologija	-	-	-	-	<i>Engineering and Technology</i>
Medicinske i zdravstvene nauke	-	-	-	-	<i>Medical and Health sciences</i>
Poljoprivredne nauke	-	-	-	-	<i>Agricultural sciences</i>
Društvene nauke	-	-	-	-	<i>Social sciences</i>
Humanističke nauke	-	-	-	-	<i>Humanities</i>
Multidisciplinarne nauke	-	-	-	-	<i>Multidisciplinary sciences</i>

**12. JEDINICE KOJE SE BAVE ISTRAŽIVANJEM I RAZVOJEM, 2018.**

*R&D UNITS BY SECTOR, 2018*

	Ukupno <i>Total</i>	Poslovni sektor <i>Business sector</i>	Visoko obrazovanje <i>Higher education</i>	Državni sektor <i>Government sector</i>	Neprofitni sektor <i>Non - profit sector</i>	
<b>UKUPNO</b>	<b>50</b>	<b>15</b>	<b>33</b>	<b>2</b>	<b>-</b>	<b>TOTAL</b>
Prirodne nauke	5	1	3	1	-	<i>Natural sciences</i>
Inženjerstvo i tehnologija	20	11	9	-	-	<i>Engineering and Technology</i>
Medicinske i zdravstvene nauke	9	1	7	1	-	<i>Medical and Health sciences</i>
Poljoprivredne nauke	2	-	2	-	-	<i>Agricultural sciences</i>
Društvene nauke	10	-	10	-	-	<i>Social sciences</i>
Humanističke nauke	4	2	2	-	-	<i>Humanities</i>
Multidisciplinarne nauke	-	-	-	-	-	<i>Multidisciplinary sciences</i>

## METODOLOŠKA OBJAŠNENJA

Podaci su rezultat statističke obrade godišnjih izvještaja prikupljenih od poslovnih subjekata koji su obavljali djelatnosti istraživanja i razvoja u Federaciji Bosne i Hercegovine u referentnoj godini i to od poslovnog sektora na godišnjem izvještaju o istraživanju i razvoju za poslovni sektor (obrazac IR-1) , od visokoškolskih ustanova na godišnjem izvještaju o istraživanju i razvoju (obrazac IR-2) i od državnog sektora i neprofitnih organizacija (obrazac IR-3).

Metodologija za sprovođenje istraživanja je usklađena sa međunarodnim standardima koje je postavio OECD i objavio u priručniku Frascati Manual (The Measurement of Scientific and Technological Activities – Proposed Standard Practice for Surveys of Research and Experimental Development – Frascati Manual, 2002 i revidirana izdanja 2007 i 2015.godine; izdavač: OECD ).

## DEFINICIJE

**Naučna istraživanja** su teorijski ili eksperimentalni rad koji se preduzima radi sticanja novih naučnih saznanja i povećanja sveukupnog ljudskog znanja. Naučnim istraživanjima se smatraju osnovna i primijenjena istraživanja.

**Osnovna (fundamentalna, bazična) istraživanja** obuhvataju ona istraživanja koja povećavaju opšti fond naučnih činjenica i znanja i koja određuju nova područja ljudskog znanja i spoznaja, ali koja nemaju ili ne moraju imati direktnu praktičnu primjenu dobijenih rezultata. Osnovna istraživanja otkrivaju pojave, procese, uzročno-posljedične veze i zakonitosti u prirodi, društvu i ljudskom mišljenju, i to, prije svega, radi unapređenja ljudskog znanja i stvaranja bazičnog znanja, koja dalje služe kao osnova za primijenjena i razvojna istraživanja i ona nemaju direktne komercijalne ciljeve.

**Primijenjena (aplikativna) istraživanja** su teorijski ili eksperimentalni rad koji se preduzima radi sticanja novih znanja, a koji je usmjeren na rješavanje nekog praktičnog zadatka, odnosno ostvarenje nekog praktičnog cilja. Primijenjena istraživanja proširuju i produbljuju postojeća znanja radi rješavanja određenih problema. Ono se preduzima ili radi ispitivanja moguće primjene rezultata fundamentalnih istraživanja ili utvrđivanja novih metoda ili postupaka za postizanje unaprijed određenog cilja. Primijenjena istraživanja su, prema tome, usmjerena na otkrivanje novih naučnih znanja, primjenu tih znanja u svrhu realizacije određenih komercijalnih ciljeva.

## EXPLANATION AND NOTE

*Data issued here are the result of statistical processing of annual reports collected from business entities engaged in the research and development activity in Federation of B&H during reference year, as follows: from business sector through the Annual Report on Research and Development for Business Entities (form IR-1), from institutions of higher education through the Annual Report on Research and Development for Higher Education Institutions (form IR-2), and from government and non-profit sector (form IR-3).*

*Methodology used while conducting this survey is harmonised with the international standards which the OECD established and published in the Frascati Manual (The Measurement of Scientific and Technological Activities – Proposed Standard Practice for Surveys of Research and Experimental Development–Frascati Manual, 2002 and revised editions 2007 and 2015; publisher: Organisation for Economic Cooperation and Development).*

## DEFINITION

**Scientific research activity** refers to theoretical or experimental work undertaken to acquire new scientific knowledge and to increase overall human knowledge. Scientific research refers to basic and applied research.

**Basic (fundamental) research** refers to research that increases the general fund of scientific facts and knowledge, also defining new areas of human knowledge and understanding, but which does not have or does not have to have direct practical application of the results obtained. Basic research reveals phenomena, processes, causal relationships and laws of nature, society and human thinking, and, above all, which aim to advance human knowledge and creation of the basic knowledge, which further serve as a basis for applied and development research. It has no direct commercial objectives.

**Applied (application) research** refers to experimental or theoretical work undertaken in order to acquire new knowledge, aimed at solving a practical task or achieving a practical goal. Applied research expands and deepens the existing knowledge in order to solve specific problems. It is carried out in order to investigate possible application of results of fundamental research or to establish new methods or procedures to be used to achieve a predefined goal. Therefore, applied research is focused towards the discovery of new scientific knowledge and application of the knowledge in order to achieve certain commercial objectives.

**Razvojna (stručna) istraživanja**, odnosno eksperimentalni razvoj je sistematski rad, utemeljen na znanjima stečenim osnovnim ili primijenjenim istraživanjima, odnosno praktičnom iskustvu, koje je, prije svega, usmjereno na uvođenje novih ili znatno poboljšanje postojećih postupaka, proizvoda i usluga. To su svi postupci koji se javljaju između izuma i proizvodnje: eksperimentiranja na crtežu i razvoj prototipova, eksperimenti, pilot-projekti, modeli, nova rješenja. Ova istraživanja imaju izrazito praktični cilj, njihovo osnovno obilježje je jasna namjena, te direktna i brzo postignuta korist u nekom uskom području. Razvojna istraživanja se još nazivaju i tehnološka usavršavanja.

**Naučnoistraživački rad** je sistematska stvaralačka aktivnost kojom se primjenom naučnih metoda stiču nove naučne spoznaje, odnosno stvaralački koristi postojeće znanje za nove primjene. To je stvaralački rad na osvajanju novih znanja, a cilj mu je podizanje opšteg civilizacijskog nivoa društva i korišćenje tih znanja u svim oblastima društveno-ekonomskog razvoja. Naučnoistraživačkim radom se bave naučnici i istraživači koji su izabrani u odgovarajuća naučna, naučno-nastavna i istraživačka zvanja.

**Poslovni sektor** obuhvata preduzeća (privredne subjekte) i organizacije čija je primarna djelatnost tržišna proizvodnja robe i usluga i njihova prodaja po ekonomskim cijenama, kao i istraživačko-razvojne jedinice u sastavu preduzeća.

**Visoko obrazovanje** obuhvata univerzitete sa jedinicama u sastavu, fakultetima, akademijama, naučno-istraživačkim institutima bez obzira na izvore finansiranja/financiranja i pravni status. Ovom sektoru pripadaju i istraživački instituti i klinike koje su pod neposrednom kontrolom ili upravom visokoškolske ustanove.

**Državni sektor** obuhvata organizacije, službe i druga tijela osim visokog obrazovanja, koja društvu pružaju one besplatne usluge koje se po tržišnim uslovima ne bi mogle obezbijediti, a predstavljaju izraz ekonomske i socijalne politike društva; prema definiciji ovaj sektor obuhvata aktivnosti administracije, odbrane i reguliranja javnog reda; zdravstvo, obrazovanje, kulturu i druge društvene usluge.

**Sektor neprofitnih organizacija** obuhvata netržišne privatne neprofitne organizacije koje domaćinstvima pružaju usluge bez naplate ili po niskoj cijeni. Ove organizacije mogu biti osnovane od strane udruženja građana radi obezbjeđenja robe i usluga za članstvo udruženja ili radi opće svrhe.

**Istraživači** su stručnjaci angažirani na stvaranju novih znanja, metoda i sistema, te provođenju istraživačkih projekata.

**Development (professional) research**, that is, experimental development, represents systematic work, based on the knowledge acquired through basic or applied research or practical experience, which is primarily focused on the introduction of new or significantly improved existing processes, products and services. These are all actions that occur between invention and production: experiments on drafts and development of prototypes, experiments, pilot projects, models, new solutions. These researches have a very practical objective, their main feature is a clear purpose and direct benefit achieved quickly and in a very narrow field. Developmental research is also called technological advancement.

**Scientific research** is a systematic creative activity that aims to gain new scientific insights through the application of scientific methods, that is, creative use of the existing knowledge for new applications. This is creative work on the acquirement of new knowledge, and the goal is to raise the general level of civilisation of society and to use this knowledge in all areas of socio-economic development. Scientific research is carried out by scientists and researchers who were elected in the appropriate scientific, scientific-teaching and research positions.

**Business sector** covers enterprises (business entities) and organisations whose primary activity is the market production of goods and services and their sale at economically significant prices, as well as research and development units in the composition of enterprises.

**Higher education** covers universities with units in composition, faculties, academies and scientific research institutes, regardless of their funding sources and legal status. This sector also covers research institutes and clinics that are under the direct control or administration of higher education institutions.

**Government sector** covers organisations, services and other bodies, except higher education, that provide the society with free common services, which could not be provided under market conditions and which represent an expression of the socio-economic policy of the society; by definition, this sector covers activities of administration, defense and public order; health care, education, culture, recreation and other social services.

**Sector of non-profit organisations** covers non-market private non-profit organisations which provide households with services free of charge or at low prices; these organisations may be established by associations of citizens in order to provide association members with goods and services or for the general purpose.

**Researchers** are professionals engaged in the creation of new knowledge, methods and systems, and also in the management of the projects concerned.

**Stručni saradnici** su zaposleni sa visokim obrazovanjem, koji direktno učestvuju sa istraživačima pri izvršavanju istraživačko - razvojnih zadataka, ali nisu nosioci istraživačko – razvojnih projekata.

**Tehničko osoblje** su zaposleni koji obavljaju tehnički dio istraživačko - razvojnog zadatka, pod nadzorom istraživača. Stepenn obrazovanja je u pravilu srednji, ali može biti i viša i visoka škola, u zavisnosti od standardizacije tehničkih zadataka.

**Rukovodeće osoblje** su zaposleni koji se veći dio radnog vremena bave upravljачko – organizacijskim poslovima; u suprotnom se razvrstavaju među istraživače ili stručno osoblje.

**Drugo osoblje** (pomoćno) su zaposleni koji obavljaju sekretarske i druge administrativne poslove (administrativno osoblje koje se uglavnom bavi finansijskim/financijskim i kadrovskim poslovima i uopće administracijom), ako je njihov rad direktno povezan sa istraživačko - razvojnim projektima. Tu se uključuju pod istim uslovima i rukovodioci mašina i uređaja i industrijski proizvođači i sastavljači.

**Ekvivalent pune zaposlenosti** se izračunava za osobe koje rade kraće od punog radnog vremena na poslovima istraživanja i razvoja. Zaposleni sa punim radnim vremenom odgovaraju jedinici ekvivalenta pune zaposlenosti.

Ukupni izdaci za istraživanje i razvoj koji obuhvataju sva finansijska/financijska sredstva potrošena za istraživanje i razvoj čine:

**1) tekući izdaci (troškovi)** koji obuhvataju:

a) troškove rada i troškove naknada zaposlenima (bruto plaće i naknade bruto plaća za sve zaposlene u IR djelatnosti; druge naknade zaposlenima u IR, npr. stipendije, nagrade i ostalo.

b) ostale tekuće troškove (materijalne troškove na istraživačko-razvojni rad, sirovine, materijal, energija; isplate na osnovu ugovora o djelu i autorskih ugovora; dnevnice, putne troškove, reprezentaciju i druge izdatke.

**2) investicijski izdaci** koji obuhvataju izdatke za zemljište i građevinske objekte; mašine i opremu; patente, licence, studije i projekte; softver i hardver (koji podrazumijeva ukupne troškove vezane za nabavku računara, uređaja, sistema, komponenti i opreme, kao i troškove nabavke ili razvijanja softvera za vlastite potrebe) i ostale izdatke.

**Research associates** are employees with completed higher education, who directly participate alongside researchers in the performing research and development activities.

**Technicians** are employees who perform the technical part of the research and development task, under the supervision of researchers. Education level is generally secondary, but may be higher, depending on the standardisation of technical tasks.

**Management** refers to employees dealing mainly with managerial and organisational tasks. Otherwise, they should be classified in the category of “researchers” or “research associates”.

**Other supporting personnel** are employees performing secretarial and other administrative tasks, insofar as their activities are a direct service to research and development projects. This category includes also, under the same provisions, plant and machine operators, and industrial manufacturers and assemblers.

**Full-time equivalent** was calculated for persons who were engaged shorter than full-time employment on research and development jobs. Full-time equivalent for persons engaged in full-time employment on R&D is equal to the unit of full time equivalent.

Total expenditures for research and development, which includes all funds expended for research and development, are:

**1) current expenditures (costs)** that include:

a) labor costs and costs of compensation of employees (gross salaries and allowances of gross salaries for all those employed on R&D activities, other compensation of those employed in R&D, such as fellowships, awards, and other costs).

b) other current costs (material costs of research and development activities – raw material, energy, payments based on temporary service contracts and copyright agreements, daily wages, travelling allowances, representation and similar, and other costs).

**2) Capital expenditures** which cover expenditures on land and buildings, machinery and equipment, patents, licences, studies and projects, software and hardware (which means total expenditure on purchase of computers, devices, systems, components and equipment, as well as expenditure on acquisition or development of software for own needs), and other expenditures.



**Izdaje Federalni zavod za statistiku, 71000 Sarajevo, Zelenih beretki 26**  
*Published by the Institute for Statistics of FBiH, 71000 Sarajevo, Zelenih beretki 26*

**Telefon/Phone: +387 (33) 20 64 52, Fax: +387 (33) 22 61 51**  
*Elektronska pošta/E-mail: [fedstat@fzs.ba](mailto:fedstat@fzs.ba), Internetska stranica/Web site: <http://www.fzs.ba>*

**Odgovara: Doc.dr. Emir Kremić, direktor**  
*Person responsible: Assist.Prof. Dr.Emir Kremić, Director General*

**Saopćenje pripremili: Emir Oruč i Haris Karačić**  
*Prepared by: Emir Oruč and Haris Karačić*

**Podaci iz ovog saopćenja objavljuju se na internetu**  
*First Release data are published on the Internet*