

Case Example 3:

National Work Hours

Because software engineering is a labor-intensive occupation with large amounts of human effort, the number of hours worked per month is very important. Even more important are the amount of hours worked in the form of unpaid overtime.

SRM has quantitative data on the average number of work hours for 52 countries. However users of SRM can provide their own local work hour patterns. The default values are provided for informational purposes but can be changed to match local data. The range of work hours per month is from a low of about 115 to a high of about 200.

Example 3: How Software Risk Master (SRM) Evaluates National Work Hours

Java Language for all 3 Cases
1000 function points for all 3 Cases
\$10,000 per month for all 3 Cases
Iterative development for all 3 Cases
Average local work hours per month for all 3 Cases
2017 is the 30th anniversary of IFPUG function point metrics

	Netherlands	United States	Japan	
National monthly	115 hours	132 hours	157 hours	National work hours vary widely
Team experience l	Average	Average	Average	
Application compl	Average	Average	Average	
Unpaid overtime l	0.00	0.00	6.00	Unpaid overtime varies widely
Software team size	6.50	6.50	6.50	Team size based on function point totals
Software schedule	15.11	13.45	12.04	Schedules reflect monthly work hours
Software effort mc	100	87	74	Effort reflects monthly work hours

Software effort ho	11,500	11,500	11,500	Hours worked stay constant
Software developr	\$1,000,000	\$870,000	\$740,000	Costs reflect monthly work hours
Software \$ per FP	\$1,000.00	\$870.00	\$740.00	Costs per FP reflect monthly work hours
Work hours per F	11.50	11.50	11.50	Work hours per FP do not reflect local work hours
Function points pe	10.00	11.52	13.58	Function points per month reflect local work hours
LOC per month	533.33	612.17	720.72	LOC per month reflect local work hours

END OF EXAMPLE

Organization for International Cooperation and Development (OECD) publishes National Work hour Data

Countries	OECD National Work hours per year	OECD National Work hours per month	Namcook Software Work hours per month	Namcook Software Unpaid overtime per month	Namcook Software Total hours per month
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1	India	2,280.00	190	190.00	12.00	202.00
2	Taiwan	2,112.00	188	188.00	10.00	198.00
3	Mexico	2,226.00	186	185.50	12.00	197.50
4	China	2,232.00	186	186.00	8.00	194.00
5	Peru	2,208.00	184	184.00	6.00	190.00
6	Colombia	2,112.00	176	176.00	6.00	182.00
7	Pakistan	2,112.00	176	176.00	6.00	182.00
8	Hong Kong	2,280.00	190	168.15	12.00	180.15
9	Thailand	2,016.00	168	168.00	8.00	176.00
10	Malaysia	2,304.00	192	169.92	6.00	175.92
11	Greece	2,034.00	170	169.50	6.00	175.50
12	South Africa	2,016.00	168	168.00	6.00	174.00
13	Israel	1,910.00	159	159.17	8.00	167.17
14	Viet Nam	1,920.00	160	160.00	6.00	166.00
15	Phillipines	1,920.00	160	160.00	4.00	164.00
16	Singapore	2,112.00	176	155.76	8.00	163.76
17	Hungary	1,956.00	163	163.00	6.00	163.00
18	Poland	1,929.00	161	160.75	2.00	162.75
19	Turkey	1,877.00	156	156.42	4.00	160.42
20	Brazil	2,112.00	176	155.76	4.00	159.76
21	Panama	2,112.00	176	155.76	4.00	159.76
22	Chile	2,029.00	169	149.64	8.00	157.64
23	Estonia	1,889.00	157	157.42	0.00	157.42
24	Japan	1,745.00	145	145.42	12.00	157.42
25	Switzerland	2,016.00	168	148.68	8.00	156.68
26	Czech Republic	1,800.00	150	150.00	0.00	150.00
27	Russia	1,973.00	164	145.51	4.00	149.51
28	Argentina	2,016.00	168	148.68	0.00	148.68
29	Korea - South	1,656.00	138	138.00	6.00	144.00
30	United States	1,790.00	149	132.00	6.00	138.00
31	Saudi Arabia	1,920.00	160	141.60	0.00	141.60
32	Portugal	1,691.00	141	140.92	0.00	140.92

33	United Kingdom	1,654.00	138	137.83	2.00	139.83
34	Finland	1,672.00	139	139.33	0.00	139.33
35	Ukraine	1,872.00	156	138.06	0.00	138.06
36	Venezuela	1,824.00	152	134.52	2.00	136.52
37	Austria	1,609.00	134	134.08	0.00	134.08
38	Luxembourg	1,609.00	134	134.08	0.00	134.08
39	Italy	1,752.00	146	129.21	2.00	131.21
40	Belgium	1,574.00	131	131.17	0.00	131.17
41	New Zealand	1,739.00	145	128.25	2.00	130.25
42	Denmark	1,546.00	129	128.83	0.00	128.83
43	Canada	1,710.00	143	126.11	2.00	128.11
44	Australia	1,728.00	144	127.44	0.00	127.44
45	Ireland	1,529.00	127	127.42	0.00	127.42
46	Spain	1,686.00	141	124.34	2.00	126.34
47	France	1,479.00	123	123.25	0.00	123.25
48	Iceland	1,706.00	142	120.00	0.00	120.00
49	Sweden	1,621.00	135	119.55	0.00	119.55
50	Norway	1,420.00	118	118.33	0.00	118.33
51	Germany	1,397.00	116	116.42	0.00	116.42
52	Netherlands	1,381.00	115	115.08	0.00	115.08
	Average	1,861.79	155	148.21	3.85	151.94