



# Ranking of national teams in the men's 50 km cross-country skiing based on the analysis of team and individual achievements at the olympic winter games and world championships

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## Abstract

**Objective of the study** was to determine the rating of national teams in the ski race 50 km in men based on the analysis of team and personal achievements at the Olympic Winter Games and World Championships.

**Methods and structure of the study.** Analysis, generalization and comparison was attached to the achievement of the winners in a 50 km race at all major tournaments held in the entire history of ski racing.

**Results and conclusions.** It has been established that out of 136 skiers who became winners of title tournaments, only 25 managed to do it twice or more, which confirms the fact about the specificity of the preparation and complexity of the ski marathon. The research results revealed that among national teams two-thirds awards (68%) on the account of Skiers of Sweden, Norway and Finland. Racers from the USSR and Russia occupy the fourth place in this list (12.5%). Achievements of domestic athletes on the last Ozi and the World Cup are a reason to believe that at the present stage of the development of ski racing, Russian skiers will remain the main competitors in the struggle for prizes in a 50 km race with riders from Northern Europe and other countries.

**Keywords:** *ski race for 50 km (ski marathon) on the World Cup and Ozi, personal and team copper offset, achieve Soviet and Russian skiers, racing format.*

**Introduction.** Currently, cross-country skiing is one of the medal winter sports - 12 sets of medals are played at the title tournaments: six each for men and women. And only the ski marathon or 50 km race for men is the only one that was held at all the Olympic Winter Games (OWG) and the World Ski Championships (WCH).

**Objective of the study** was to determine the rating of national teams in the ski race 50 km in men based on the analysis of team and personal achievements at the Olympic Winter Games and World Championships.

**Methods and structure of the study.** Within the framework of scientific work, the analysis and generalization of the protocols of competitions, special and scientific and methodological literature on the history and development of cross-country skiing were carried out.

## Results of the study and their discussion.

Currently, unofficial medal counts at OWG and WCH are considered by specialists as the most objective indicator of the rating of national teams and individual athletes [1, 2]. The team medal standings in the 50 km cross-country skiing at the OWG and WCH are presented Table 1.

The data in Table 1 testifies to the undeniable advantage of the riders from Sweden, Norway and Finland. Until 1984, title tournaments were held in even years, alternating one after the other. In addition to representatives of northern Europe, champions and prize-winners in the ski marathon from 1924 to 1984. Athletes from six more countries became athletes (USSR, Switzerland, East Germany, Czechoslovakia, Italy and France), and they were able to win 21 medals out of 105 (20%) at the first 14 OWG and 21 World Championships.



Since 1985, the World Cup began to be held in odd years. By this time, plastic skis had completely replaced wooden ones, and the skating or free style of movement became popular. In the late 80s, the socialist camp ceased to exist, and in 1991 the USSR collapsed. These events led to an increase in the number of countries whose skiers began to win prizes in competitions of the highest rank [1, 2]. Riders from twelve countries have already competed with northern Europeans and have won 40 of the 84 medals (48%) contested at the next 9 OWGs and 19 WCHs.

An analysis of personal achievements revealed that 21 athletes became the winners of the OWG in the 50 km cross-country ski race, 21 and 23 riders became silver and bronze medalists. At the World Championships, these figures are as follows - 34, 35 and 38. The total number of medalists at the OWG is 62, and at the World Championships - 95. 25 athletes managed to win two or more awards at the OWG and the World Championships, which are presented in Table 2.

Soviet skiers first took part in the World Cup in 1954 (ChM-54), where Vladimir Kuzin won the 50 km race. Our athletes still cannot repeat this achievement. Nikolai Zimyatov became the champion of the OWG-80, and Fedor Terentiev, Vyacheslav Vedenin and Alexander Zavyalov became the winners of the OWG. Vyacheslav Vedenin, Evgeny Belyaev, Yuri Burlakov and Alexey Prokurov became the winners of the World Championship. Total from 1954 to 1992. Soviet skiers took part in 22 title tournaments, in which eight athletes won 10 awards (15%) in the 50 km race.

Since 1993, our athletes began to compete under the flag of the Russian Federation, and Sergey Kryanin became the first winner in the ski marathon at the World Cup-01. Also, the winners of the World Cup were: Maxim Vylegzhanin, Sergey Ustyugov and Alexander Bolshunov; OWG champions - Mikhail Ivanov and Alexander Legkov; the winners of the OWG are Evgeny Dementiev, Maxim Vylegzhanin, Ilya Chernousov and Andrey Larkov. Thus, nine Russian skiers in 24 tournaments from 1993 to 2021. won 13 medals (18%) in the 50 km race.

In the 21st century, television [4] began to play a huge role in the development of any sport, the requirements of which changed the program of cross-country skiing competitions at the OWG and World Championships [1, 2]. There have been changes in the format of the 50 km ski race. At all title tournaments before World Cup 03, the start was separate with an interval of 30 seconds. Starting from the World Cup 05, the start became general (mass start), which led to significant changes in the tactics of passing the distance. Now the winner and prize-winners are determined in a direct struggle between the athletes of the leading group, and most often it is not the most enduring racer who wins, but the one who managed to tactically competently conduct the race and save strength for the final spurt [3].

**Conclusions.** The 50 km cross-country ski race is the only one that was included in the program of all OWG and World Championships. The rating of national teams in this discipline is headed by the teams of Sweden (52 medals or 27.5% of all awards), Norway (39; 20.5%) and Finland (37; 20%). Skiers

**Table 1.** Team medal standings in 50 km cross-country skiing at OWG and WCH

Country	OWG				WCH				TOTAL	
	gold	silver	bronze	∑	gold	silver	bronze	∑	∑	%
Sweden	7	6	5	18	15	9	10	34	52	27,5
Norway	7	2	5	14	9	6	10	25	39	20,5
Finland	4	6	3	13	8	9	7	24	37	20
Russia	2	3	2	7	---	5	1	6	13	7
Italy	1	2	1	4	2	1	2	5	9	5
the USSR	1	1	3	5	1	3	1	5	10	5,5
Kazakhstan	1	---	---	1	---	---	2	2	3	1,5
GDR	---	1	---	1	1	---	1	2	3	1,5
Germany	---	1	---	1	---	1	2	3	4	2
Estonia	---	1	---	1	---	1	---	1	2	1
Switzerland	---	---	2	2	---	1	---	1	3	1,5
Austria	---	---	2	2	---	---	1	1	3	1,5
Czechoslovakia	---	---	---	---	1	2	2	5	5	2,5
Spain	---	---	---	---	1	---	---	1	1	0,5
Czech	---	---	---	---	1	1	---	2	2	1
Canada	---	---	---	---	1	---	---	1	1	0,5
France	---	---	---	---	---	1	1	2	2	1
<b>Total:</b>	<b>23</b>	<b>23</b>	<b>23</b>	<b>69</b>	<b>40</b>	<b>40</b>	<b>40</b>	<b>120</b>	<b>189</b>	<b>100</b>

**Table 2.** *Winners of two or more medals in the 50 km race at OWG and WCH*

№	Sportsman	Country	Years of winning awards	OWG			WCH			Σ
				1	2	3	1	2	3	
1	Bjorn Delhi	NOR	1992-1998	2	-	-	-	1	2	5
2	Veiko Hakkulinen	FIN	1952-1960	1	2	-	-	2	-	5
3	Gunde Swan	SWE	1984-1991	1	1	-	2	1	-	5
4	Maurilio de Solt	ITA	1985-1992	-	2	-	1	1	1	5
5	Sixten Ernberg	SWE	1956-1964	2	-	-	2	-	-	4
6	Petter Northug	NOR	2010-2015	1	-	-	3	-	-	4
7	Torgny Mogren	SWE	1987-1993	-	-	-	2	1	1	4
8	Welli Saarinen	FIN	1929-1933	1	-	-	1	1	-	3
9	Thomas Wassberg	SWE	1982-1987	1	-	-	1	1	-	3
10	Vyacheslav Vedenin	URS	1968-1972	-	1	1	-	1	-	3
11	Mikka Mullela	FIN	1997-1999	-	1	-	2	-	-	3
12	Maxim Vylegzhanin	RUS	2009-2014	-	1	-	-	2	-	3
13	Alexander Bolshunov	RUS	2018-2021	-	1	-	-	2	-	3
14	Niels Englund	SWE	1934-1936	-	-	1	1	1	-	3
15	Od-Bjorn Helmeset	NOR	2002-2007	-	-	1	1	-	1	3
16	Johan Olsson	SWE	2010-2015	-	-	1	1	-	1	3
17	Claes Karppinen	FIN	1935-1939	-	-	-	-	3	-	3
18	Alice Wiklund	SWE	1934-1936	1	-	-	1	-	-	2
19	Nils Karlsson	SWE	1948-1950	1	-	-	-	-	1	2
20	Kalevi Hämäläinen	FIN	1960-1962	1	-	-	-	-	1	2
21	Vladimir Smirnov	KAZ	1994-1995	1	-	-	-	-	1	2
22	Andrius Veerpalu	EST	1999-2002	-	1	-	-	1	-	2
23	Mikhail Botvinov	AUT	1999-2006	-	-	1	-	-	1	2
24	Gerhard Grimmer	DDR	1970-1974	-	-	-	1	-	1	2
25	Arvo Viitanen	FIN	1954-1958	-	-	-	-	-	2	2

from these countries have won eighteen OWGs and thirty-two Worlds and won 128 medals out of 189 (68%). Russia, with two OWG wins, is in fourth place (13; 7%).

In the history of cross-country skiing, 136 athletes have won the 50 km race at the OWG and WCH, and only 25 have managed to win two or more medals. The most successful marathon runners - Bjorn Deli, Veiko Hakkulinen, Gunde Swan, Maurilio de Solt and Sixten Ernberg - won 5 awards each; and the most titled ones are Sixten Ernberg and Petter Northug, who each won four 50 km races at the OWG and WCH.

Domestic skiers successfully compete in the 50 km race. OWG and World Championship winners were Vladimir Kuzin, Nikolai Zimyatov, Mikhail Ivanov and Alexander Legkov; and Vyacheslav Vedenin, Maxim Vylegzhanin and Alexander Bolshunov are three-time winners. As a result: 17 riders from the USSR and Russia won 23 medals (12.5%). But if we take into account only those title tournaments in which our skiers participated, then the relative values will be 17.5%, which is comparable to the leaders.

In recent years, the development of cross-coun-

try skiing has been greatly influenced by the commercialization of sports and television, thanks to which, with the World Cup 05, the start in the 50 km race became common (mass start). Russian riders managed to use these changes to their advantage and won 11 medals in these 13 tournaments, which is 28% of the awards played during this period.

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