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SINO-SOVIET BLOC CONSTRUCTION AND TRADE  
IN NEW DRY CARGO SHIPS AND TANKERS



CIA/RR EM 61-22

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FOREWORD

Soviet plans call for the doubling of the total tonnage of the oceangoing maritime fleet of the USSR during the Seven Year Plan (1959-65). These plans are evaluated in this memorandum which supplements the data on construction shown in CIA/RR A.ERA 61-5, Estimated Number, Value, and Distribution of Merchant Ships Constructed by and for the Sino-Soviet Bloc, 1959-60, August 1961, SECRET, and the data on the growth and operation of the Sino-Soviet Bloc merchant fleet shown in CIA/RR EM 61-15, Annual Review of Merchant Shipping in the Sino-Soviet Bloc, 1960, 14 July 1961, SECRET. In addition, this memorandum shows the value of the construction and acquisition of all categories of merchant ships during 1959-60, with particular reference to the construction and acquisition of oceangoing dry cargo ships and tankers.

The detailed nature of the information contained in this memorandum involves numerous source references for each of many estimates and makes the inclusion of source references infeasible, but source documentation for estimates is available in the files of this Office.

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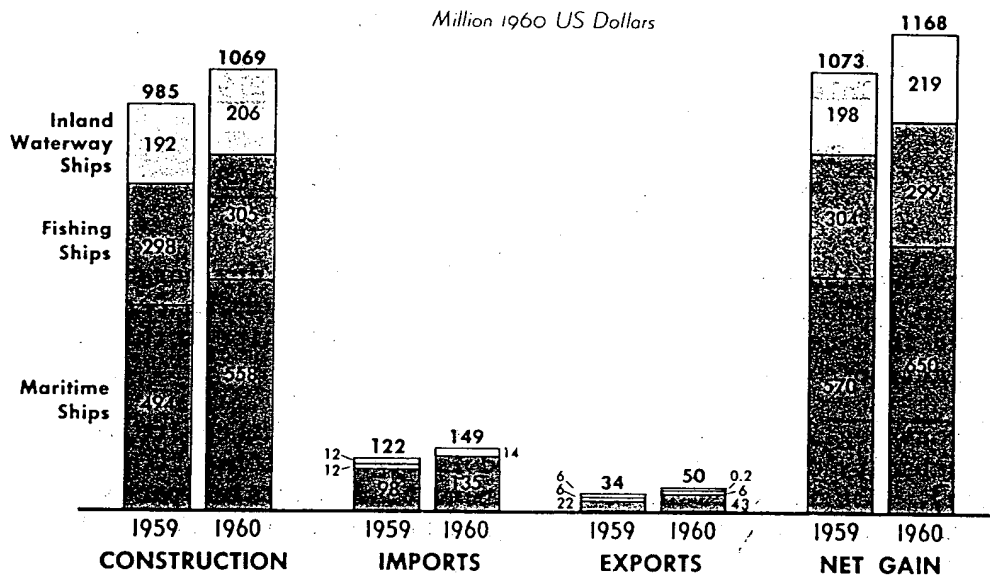
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SINO-SOVIET BLOC CONSTRUCTION AND TRADE  
IN NEW DRY CARGO SHIPS AND TANKERS\*

Summary

Barring a change in priorities, the USSR is expected to achieve its goal of approximately doubling the tonnage of the maritime fleet during the Seven Year Plan (1959-65). As the accompanying chart shows, of the total value of \$1,168 million\*\* of the Bloc\*\*\* construction and net trade in new merchant ships† in 1960, more than one-half, or \$650 million, consisted of maritime ships:



Because of rounding, data may not add to the totals shown

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\* The estimates in this memorandum represent the best judgment of this Office as of 1 September 1961.

\*\* In this memorandum, dollar values are given in 1960 US dollars.

\*\*\* In this memorandum the term Bloc refers to the Sino-Soviet Bloc.

† In this memorandum the term merchant ships includes all categories of maritime, fishing, and inland waterway ships.

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Of the 1960 net Bloc gain of \$1,168 million, \$925 million, or almost 80 percent, represent Soviet construction and imports. Of the \$650 million of maritime ships in 1960, about 69 percent was made up of dry cargo ships and tankers of more than 1,000 gross register tons (GRT),\* as shown in the following tabulation:

<u>New Merchant Ships</u>	<u>Million 1960 US \$</u>
Maritime	
Dry cargo ships of more than 1,000 GRT	354
Tankers of more than 1,000 GRT	95
Other**	201
Subtotal	<u>650</u>
Fishing	<u>299</u>
Inland	<u>219</u>
Total Bloc construction and trade***	<u>1,168</u>

Construction and imports (less exports) of new dry cargo ships of more than 1,000 GRT, excluding those assigned to Caspian Sea service, resulted in a net gain to the Bloc in 1960 of 92 ships totaling 525,000 deadweight tons (DWT)<sup>†</sup> and valued at \$354 million.

\* Gross register tonnage is a measure whereby the entire internal cubic capacity of a ship is expressed in register tons (100 cubic feet per ton). Not included in the measurement are certain spaces such as peak tanks and other tanks of water ballast, open forecastle, bridge and poop, hatchway excess, certain light and air spaces, anchor gear, steering gear, wheelhouse, galley, cabins for passengers, and other minor spaces specified by law.

\*\* Including tugs, icebreakers, auxiliaries, and small dry cargo ships and tankers of less than 1,000 GRT.

\*\*\* For a breakdown of construction, imports, and exports, see Tables 1 and 2 in the Appendix, pp. 13 and 15, respectively, below.

<sup>†</sup> The deadweight tonnage of a ship is the carrying capacity of the ship in tons of 2,240 pounds. It includes the crew and their effects and all items of consumable or variable load such as stores, fuel, and cargo. The deadweight tonnage is the difference in tons between full load displacement and light ship displacement.

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On the basis of the rate of construction of dry cargo ships in 1960 and only a slight increase in productivity, the Bloc easily can construct about 3.25 million DWT during the Seven Year Plan. Moreover, during the same period it is believed that imports will exceed exports by possibly 0.5 million DWT.

The construction and imports of tankers (no tankers were exported) of more than 1,000 GRT, excluding tankers assigned to Caspian Sea service, resulted in a gain of 16 tankers totaling 269,000 DWT and valued at \$95 million. During the Seven Year Plan, Bloc construction of tankers may reach a total of 80 tankers totaling 1 million DWT. Trade agreements, construction contracts, and negotiated purchases with non-Bloc\* countries during the Seven Year Plan probably will amount to 75 tankers totaling 1.4 million DWT. Bloc construction and imports of tankers during the Seven Year Plan could amount to about 155 tankers totaling 2.4 million DWT.

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\* In this memorandum the term non-Bloc refers to countries outside the Sino-Soviet Bloc and includes Yugoslavia.

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## I. Introduction

Total construction and net trade in new merchant ships in the Sino-Soviet Bloc in 1960 amounted to \$1,168 million, a gain of about 9 percent above the level of 1959. Of the 1960 total, about 56 percent, or \$650 million, consisted of maritime ships. About 69 percent of the value of these ships was made up of dry cargo ships and tankers of more than 1,000 GRT.\*

Unless the resources currently allocated to the construction and procurement of new dry cargo ships and tankers are shifted elsewhere, it is therefore estimated that the USSR will attain the goal of approximately doubling the total tonnage of the oceangoing maritime fleet during the Seven Year Plan. This memorandum is therefore focused on the Bloc program to construct and import new dry cargo ships and tankers.

## II. Construction, Imports, and Exports of New Dry Cargo Ships\*\*

### A. Bloc Construction

During 1960 the Bloc produced 88 dry cargo ships totaling 452,000 DWT and valued at \$311 million. The rate of construction of dry cargo ships by the Bloc during 1960 is one that has been reached by steady annual increase since 1952. There are no indications that this rate of construction has been accelerated by special priorities, and it probably can be maintained if not slightly increased during the remaining years of the Seven Year Plan.

In the construction of dry cargo ships of more than 1,000 GRT by the Bloc in 1960, Poland led with production of 197,000 DWT (32 ships), East Germany was second with production of 142,000 DWT (27 ships), and the USSR was third with production of 54,000 DWT (4 ships). Four other Bloc countries produced dry cargo ships totaling 60,000 DWT (25 ships).

\* See p. 2, above.

\*\* See Table 3 in the Appendix, p. 17, below. Table 3 and the data used in this section are restricted to oceangoing dry cargo ships of more than 1,000 GRT and exclude all ships assigned to Caspian Sea service and all refrigerated cargo ships except the two imported from West Germany. Because all refrigerated cargo ships, except as noted above, are assigned to servicing the fishing fleet, they are excluded from consideration in this section. Because some ships are converted after completion and delivery from a shipyard to naval auxiliary and other services, the number of ships and tonnage given in Table 3, therefore, do not necessarily constitute additions to the maritime dry cargo fleet of the Bloc.

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On the basis of the rate of construction of dry cargo ships in 1960 and only a slight increase in productivity, the Bloc easily can construct about 3.25 million DWT during the Seven Year Plan.

B. Bloc Imports

During 1960 the Bloc imported from non-Bloc countries 16 dry cargo ships, totaling 124,000 DWT and valued at \$79 million. Included in the imports from non-Bloc countries were two refrigerated cargo ships built by West Germany for the USSR. Each of these ships, to be used in Black Sea - Africa trade, has four insulated cargo holds capable of carrying chilled fruits and frozen produce. Other refrigerated ships that have been domestically built or imported by the USSR have been used only in the transportation of chilled and frozen fish from the Soviet fishing grounds to the homeland of the USSR.

Firm contracts and trade agreements between Bloc and non-Bloc countries show that the import of dry cargo ships will continue throughout the Seven Year Plan period.

C. Bloc Exports

During 1960 the Bloc exported to non-Bloc countries 12 dry cargo ships totaling 51,000 DWT and valued at \$36 million. Although it is expected that the Bloc will continue to export a small number of ships, it is believed that the amount of imports will exceed exports by possibly 0.5 million DWT during the Seven Year Plan period.

D. Bloc Independence of Non-Bloc Countries for Main Propulsion Engines of Ships

Within a few years the Bloc should virtually be independent of non-Bloc countries for the supply of propulsion engines. The USSR, Poland, and East Germany for several years have held licenses to produce large diesel engines of designs by Burmeister and Wain, Sulzer, and Maschinenfabrik Augsburg-Nurnberg. The first Soviet version of an 8,750-horsepower (hp) Burmeister and Wain diesel engine will be installed in a new class of cargo ships (12,500 DWT) scheduled for construction in the Nosenko Shipyard in Nikolayev. Recent developments indicate that a 13,000-hp gas-turbine engine is at an advanced stage of construction and probably will be installed in the scheduled 17,000-DWT tanker soon to be built in Leningrad. Since the reduction in 1955 of the construction of large naval surface ships, the USSR has had ample capacity for the construction of steam turbines for merchant ships.

### III. Construction and Imports of Tankers\*

#### A. Bloc Construction

During 1960 the Bloc produced only 9 tankers totaling 132,000 DWT and valued at \$53 million compared with 452,000 DWT of dry cargo ships. During 1959 the Bloc constructed 9 tankers totaling 121,500 DWT. It is estimated that in 1961 the Bloc will construct 12 tankers totaling 140,000 DWT.

Production in 1960 included 3 classes of tankers: the Chien She 9 (4,720 DWT), 1 of which was constructed by Communist China; the Kazbek (11,250 DWT), 6 of which were constructed by the USSR; and the Pekin (29,980 DWT), 2 of which were constructed by the USSR.

The Kazbek class continues to be a favorite in the USSR. By the end of 1960, 66 tankers of this class had been constructed. The cost of transporting oil in this class of tankers certainly is higher per ton than that in larger tankers, but the advantage of the relatively shallow draft Kazbek class (28 feet) in comparison with that of the Pekin class (35 feet) permits entry in most harbors of the USSR. A Pekin-class tanker at full-load draft, for example, cannot enter the port of Leningrad. Although the annual rate of construction of the Kazbek class has recently decreased, there is no evidence at this time that indicates the number of Kazbek-class or Pekin-class tankers yet to be built. Tankers smaller than the Kazbek class, particularly in the 4,500 and 1,500 DWT classes, are used principally for the domestic transportation of oil. Tankers larger than the Kazbek class are used principally in the transportation of oil from the Black Sea to the Bloc Far East and in exporting oil to non-Bloc countries.

The Soviet press has carried articles referring to the planned construction of two new classes, one having a cargo capacity of about 43,000 tons and the other having a cargo capacity of about 17,000 tons. Construction of the 17,000-ton tanker may be underway, but it is doubtful that the construction of the 43,000-ton tanker will begin before mid-1962 or early 1963.

The construction of a large class of tankers (19,000 DWT) recently began in Poland. The first tanker of this class will be named Bausk

\* See Table 4 in the Appendix, p. 17, below. Table 4 and the data used in this section are restricted to oceangoing tankers of more than 1,000 GRT and exclude all tankers assigned to the Caspian Sea service.

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(formerly Professor Huber) and will be delivered to the USSR in the third quarter of 1961. Two other tankers have been launched, one of which will be completed late in 1961 and the other early in 1962. Both are to be delivered when completed to the USSR. Two more tankers of this class are scheduled for completion in 1962 and 1963 and are to be delivered to Communist China. Six smaller tankers of 1,500 DWT each are scheduled to be completed for the USSR during 1961 and 1962 by Poland. A new class of tankers (35,000 DWT) is reported scheduled for construction in Poland beginning in 1963. This tanker probably will be delivered to the USSR.

Should the annual rate of construction in the Bloc during 1962-65 be maintained at about 12 tankers totaling 150,000 DWT Bloc construction during the Seven Year Plan may reach a total of 80 tankers totaling 1 million DWT.

B. Bloc Imports\*

The rise in the emphasis by the USSR on exporting oil to non-Bloc countries has caused recent increased activity in the procuring of tankers. This activity has been particularly apparent in the purchase of tankers from non-Bloc countries during 1960 and in the negotiations for the construction of tankers.

During 1959 the Bloc acquired seven tankers totaling 62,400 DWT from non-Bloc countries. All these tankers were produced on direct construction contracts between Bloc and non-Bloc countries. In 1960, however, the Bloc acquired seven tankers totaling about 137,000 DWT and valued at \$42 million. Four of these tankers totaling 33,400 DWT were produced on direct construction contracts, whereas three tankers totaling 103,400 DWT were procured through negotiations during the final stages of construction for the purchase of tankers already under construction.

Certain non-Bloc countries that engage in the transportation of oil had placed contracts with Japan and several countries of Western Europe for the construction of large tankers to be delivered in 1960, 1961, 1962, and 1963. Because of a sharp reduction in the demand for new tanker tonnage in those non-Bloc countries, the tankers being built under construction contracts became available for sale. The Bloc seized this opportunity and purchased a number of tankers in various stages of completion, some of which had not yet been laid down on the shipbuilding ways. In spite of this situation, the Bloc has paid higher than world market prices for these tankers.

\* No tankers are being exported by the Bloc.

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During 1961, it is estimated that the Bloc will acquire about 12 tankers totaling 216,000 DWT.\* Seven of these tankers totaling 52,000 DWT were contracted for before the recent Soviet drive to acquire tankers. In addition to the 12 tankers mentioned above, negotiations for 2 tankers totaling 64,000 DWT are in progress.

During 1962-65, trade agreements\*\* and firm contracts will provide about 49 tankers totaling 983,000 DWT.\* Negotiations also are in progress for two tankers totaling 64,000 DWT during 1962-65.

The number of tankers already under construction that may be obtained by the USSR through negotiations with either the shipbuilder or the owner is believed to be decreasing rapidly. In the group of tankers to be delivered during 1962-65, only one contract for the delivery of two tankers in 1962 was obtained in this manner.

Total construction of tankers by the Bloc and acquisitions of newly built tankers from non-Bloc countries during the Seven Year Plan may amount to about 155 tankers totaling 2.4 million DWT.

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\* See Table 5 in the Appendix, p. 20, below.

\*\* Trade agreements that include tankers are generally considered to mean permissive construction rather than a firm contract. However, in the light of the current Soviet effort to procure tankers, it is believed that firm contracts will result.

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APPENDIX

STATISTICAL TABLES

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Table 1

Value of Construction, Imports, and Exports  
of Newly Constructed Merchant Ships by the Sino-Soviet Bloc, by Country  
1960

Country and Category	Domestic Construction	Imports		Exports		Net Gain
		From Other Bloc Countries	From Non-Bloc Countries	To Other Bloc Countries	To Non-Bloc Countries	
USSR						
Maritime	151.6	222.6	102.7			476.9
Finland	157.6	124.3				281.9
Iceland	106.3	46.4	13.6			166.3
Subtotal	415.5	399.3	116.3			225.1
Poland						
Maritime	145.4		31.6			85.4
Finland	82.1					15.2
Subtotal	227.5		31.6			100.6
East Germany						
Maritime	169.0					31.5
Finland	65.1					1.4
Iceland	13.8					1.8
Subtotal	247.9					34.7
Communist China						
Maritime	42.7					35.9
Iceland	50.0					50.0
Subtotal	92.7					85.9
Hungary						
Maritime	20.5					2.4
Iceland	15.2					1.2
Subtotal	35.7					3.6

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Table 1

Value of Construction, Imports, and Exports  
of Newly Constructed Merchant Ships by the Sino-Soviet Bloc, by Country  
1960  
(Continued)

Million 1960 US \$

Country and Category	Domestic Construction	Imports		Exports		Net Gain
		From Other Bloc Countries	From Non-Bloc Countries	To Other Bloc Countries	To Non-Bloc Countries	
Bulgaria						
Maritime	13.6			13.2		0.4
Prailing	0.3			3.2		0.3
Ireland	3.2			16.4		0.1
Subtotal	17.1					
Rumania						
Maritime	15.2			6.0		9.2
Ireland	6.9			6.9		
Subtotal	22.1			12.9		9.2
Czechoslovakia						
Maritime	10.5	2.2		10.5		2.2
Ireland						
Subtotal	10.5	2.2		10.5		2.2
Albania						
Maritime			1.1			1.1
North Korea						
Maritime		2.2				2.2
North Vietnam						
Maritime		3.0				3.0
Total by category						
Maritime	558.0	230.0	135.4	230.0	131.2	690.2
Prailing	305.1	184.3	13.6	184.3	61.3	290.0
Ireland	205.9	167.1		167.1	0.2	292.3
Grand total	1,069.0	400.1	149.0	400.1	192.7	1,268.3



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Table 2

Value of Newly Constructed Merchant Ships  
Imported from Non-Bloc Countries by the Sino-Soviet Bloc  
1960

	Million 1960 US \$
<u>Exporting Country and Category</u>	<u>Value</u>
Denmark	
Maritime	<u>27.2</u>
Finland	
Maritime	44.8
Inland	13.6
Subtotal	<u>58.4</u>
Italy	
Maritime	<u>1.1</u>
Japan	
Maritime	<u>20.0</u>
Netherlands	
Maritime	<u>12.8</u>
West Germany	
Maritime	<u>9.6</u>
Yugoslavia	
Maritime	<u>19.9</u>
Total by category	
Maritime	<u>135.4</u>
Inland	<u>13.6</u>
Grand total	<u>149.0</u>

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Table 3  
Construction, Imports, Exports,  
and Value of Work Constructed Concerning Dry Cargo Ships  
of More Than 1,000 Gross Register Tons by Six-Country Area, 1960

Country	Domestic Construction			From Other Six Countries			Exports			Imports			Net Gain		
	Number of Ships	Deadweight Register Tons	Value \$/	Number of Ships	Deadweight Register Tons	Value \$/	Number of Ships	Deadweight Register Tons	Value \$/	Number of Ships	Deadweight Register Tons	Value \$/	Number of Ships	Deadweight Register Tons	Value \$/
Germany	4	13,200	86.8	15	23,060	138.0	1	1,100	2.2	11	17,000	104.9	60	319,600	211.9
France	2	15,100	117.6	1	1,100	2.2	1	1,100	2.2	1	1,100	2.2	1	1,100	2.2
Italy	1	15,100	117.6	1	1,100	2.2	1	1,100	2.2	1	1,100	2.2	1	1,100	2.2
Japan	1	15,100	117.6	1	1,100	2.2	1	1,100	2.2	1	1,100	2.2	1	1,100	2.2
United Kingdom	1	15,100	117.6	1	1,100	2.2	1	1,100	2.2	1	1,100	2.2	1	1,100	2.2
USSR	1	15,100	117.6	1	1,100	2.2	1	1,100	2.2	1	1,100	2.2	1	1,100	2.2
Other Six Countries	1	15,100	117.6	1	1,100	2.2	1	1,100	2.2	1	1,100	2.2	1	1,100	2.2
Total	96	311,000	2,113	57	83,860	501.0	5	5,500	11.0	25	397,000	2,482.0	138	3,210,000	2,113.0

a. Excluding ships assigned to transport sea services and refrigerated cargo ship groups in which the total gross register tonnage is less than 1,000 gross register tons, or 10,000 gross register tons, and valued at \$9.6 million.  
 b. Million 1960 US \$.  
 c. Excluding two refrigerated cargo ships totaling 11,000 deadweight tons, or 10,000 gross register tons, and valued at \$9.6 million.

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Table 4

Construction, Imports, and Value of Newly Constructed Ongoing Tankers  
of More Than 1,000 Gross Register Tons by the Sino-Soviet Bloc a/  
1960

Country	Domestic Construction				Imports				Net Gain			
	Number of Ships	Deadweight Tons	Gross Register Tons	Value b/	Number of Ships	Deadweight Tons	Gross Register Tons	Value b/	Number of Ships	Deadweight Tons	Gross Register Tons	Value b/
USSR	8	127,460	91,900	49.6	6	116,790	76,250	35.5	14	244,250	168,150	85.1
China	1	4,720	3,300	3.1					1	4,720	3,300	3.1
Poland					1	19,980	13,480	6.7	1	19,980	13,480	6.7
Total	9	132,180	95,200	52.7	7	136,770	89,730	42.2	16	268,950	184,930	94.9

a. Excluding ships assigned to Caspian Sea service. No tankers were exported during 1960. Because some ships are converted after completion and delivery from a shipyard to naval auxiliary and other services, the number of ships and tonnage shown in this table do not necessarily constitute additions to the maritime tanker fleet of the Bloc.

b. Million 1960 US \$.

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Table 5

Estimated Construction of Tankers  
by Non-Bloc Countries for the Sino-Soviet Bloc  
1961 and 1962-65

<u>Country of Origin</u>	<u>1961</u>		<u>1962-65</u>	
	<u>Number of Tankers</u>	<u>Deadweight Tons</u>	<u>Number of Tankers</u>	<u>Deadweight Tons</u>
Finland	4	17,920	19	85,120
Italy	2	79,500	7	273,000
Japan	1	35,000	5	175,000
Netherlands	2	49,400	2	49,400
Sweden	2	8,960	0	0
Yugoslavia	1	25,000	16	400,000
Total	<u>12</u>	<u>215,780</u>	<u>49</u>	<u>982,520</u>

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