

## FINLAND

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The Finnish economy continued to flourish in 2000 due to the success of the high technology industry and the favourable US dollar exchange rate of Mk6.5. Tax revenue increased allowing the government to pay off MK50 billion of the Mk400 billion state debt. The inflation rate at the end of 2000 was 3.4% compared with only 1.2% in 1999. GDP showed a growth of 9.3% from Mk718 billion to Mk785 billion. Unemployment continued its slight decrease from 259,000 in 1999 to 244,000 (from 10.1% of the workforce to 9.4%).

Prospecting and exploration continued to increase during 2000. Expenditure rose by 20%, which is remarkable compared with the worldwide drop of about 8%. Exploration drilling amounted to 143 km, which is 15% more than in the previous year. The total number of valid claims, including gold-panning claims, at the end of 2000 was 1,295. Almost 30 companies are claim holders.

The Precambrian Fennoscandian Shield, with its layered intrusions, has offered a tempting base for the exploration boom for platinum group metals. Two notable PGM exploration projects are underway. Outokumpu Mining Oy and South-Africa's GoldFields Ltd have established the Arctic Platinum Partnership. This is exploring the Kemi-Ranua region and is to conduct a feasibility study at the Konttijärvi mining concession area. North Atlantic Natural Resources and the Geological Survey of Finland are exploring for nickel-copper-bearing PGM metal prospects in the Koillismaa region of northeast Finland. The Kevitsa PGM-bearing nickel-copper deposit, which was formerly explored by Outokumpu Mining, has been reclaimed by Scandinavian Gold Prospecting AB. Kalvinit Oy has started a feasibility study at the Kälviä ilmenite deposit in western Finland.

Finland's Geological Survey reported three gold prospects, two limestone deposits and one nickel prospect to the Ministry of Trade and Industry for international tender. The mineral rights of the Vaara nickel prospect have been transferred to Outokumpu Mining. All other tendered prospects and deposits have yet to be finalised. The prospecting and exploration of base metals, gold, PGM, diamonds, industrial minerals and dimension stone has proceeded at the same rate as in the previous years, as indicated by the number of claims (224, 224, 162, 61 and 120 respectively). This reflects the diversity of the minerals on the Fennoscandian Shield.

Finland has 42 operating mines and quarries, with a total output of 17.5 Mt in 2000, which was 300,000 t less than in 1999. The country's six gold and base metals mines

### Explore Finland's Potential PGE, Gold & Diamonds

Finland offers a very favorable investment and operating environment with significant potential for new discoveries. Hot topics include PGE deposits with world-class reserves and potential, and the >1 Moz Suurikuusikko gold deposit. Present activity is concentrated in PGEs, gold, base metals and diamonds. Finland has excellent geological databases, good infrastructure, a progressive mining law and readily available exploration services. These factors make operating in Finland attractive and cost effective. For further information please contact the Geological Survey of Finland ([explor@gsf.fi](mailto:explor@gsf.fi)) or visit our exploration website:

[www.gsf.fi/explor/](http://www.gsf.fi/explor/)



produced 3.3 Mt of ore. The Kemi chromium mine remained the largest metallic ore mine with 1.3 Mt. The mine is now owned by Avesta Polarit Chrome Oy after a merger of the two steel companies. The production of the Pyhäsalmi mine was 1.1 Mt of ore but its satellite mine, Mullikkoräme, was shut after mining 64,000 t from the last economical orebody. Mining of the Orivesi and Pahtavaara gold mines yielded 180,000 t and 140,000 t of ore, respectively. The Pahtavaara operation ceased mainly because of the low price of gold. Production of ore from the reopened Hitura nickel mine was 520,000 t (its normal level).

Output by Finland's 20 industrial mineral mines and quarries was 10.4 Mt. The Siilinjärvi apatite mine contributes about 80%, or 8.5 Mt. The two talc mines Lahnaslampi and Horsmanaho, owned by Mondo Minerals Oy, yielded 1.06 Mt (10% of the total). The remaining 860,000 t is split between 17 quarries, which produce soapstone, quartz, feldspar, rock wool and kyanite.

Partek Nordkalk Oy owns 11 of the 16 limestone mines and quarries. The company's output is 3.43 Mt, which equates to over 90% of the total limestone output. The production by Saxo Minerals Oy (two quarries) and Juuan Dolomiittikalkki Oy (two quarries) and Karl Forsström (one mine) was 110,000 t, 50,000 t and 170,000 t, respectively.

Outokumpu Mining has invested about Mk300 million in the new Pyhäsalmi zinc-copper mine, and the deep mine will start in mid-2001. The other major mining investment (of about the same expenditure) in Finland is for the underground Kemi chromium mine.

The most promising venture is at the Suurikuusikko gold deposit. According to Riddarhyttan Resources, the resources are now 8.3 Mt, grading 6.2 g/t Au with a cut-off grade of 1 g/t. The company expects to boost the gold content to 2.5-3.0 Moz within one year.

The most remarkable increase concerning processed products was nickel concentrate;

output rose from 8,000 t to 24,000 t, reflecting full production at the Hitura nickel mine following its reopening. There was also notable progress in the production of stainless steel, chromite concentrate and lump ore, and apatite, with production increases of 6%, 5% and 2.3%, respectively. An increase in cement production from 1.3 Mt to 1.43 Mt reflected increased construction activity. In spite of this domestic limestone production fell by 4.5%.

The closure of the Pahtavaara gold mine caused an almost 30% decline in gold production. Falls of 18.4% in zinc concentrate, 22.6% in silver, 14.3% in quartz and 11.4% in feldspar production were also noteworthy.

<b>Concentrate Metal and Mineral Production (<sup>1</sup>000 t except where stated)</b>			
	<b>1998</b>	<b>1999</b>	<b>2000</b>
Pyrite conc.	770	840	823
Chromite <sup>1</sup>	498	597	628
Iron ore <sup>2</sup>	246	276	256
Nickel conc.	22	8	24
Zinc conc.	58	38	31
Copper conc.	36	38	42
Steel	3,951	3,956	4,096
Pig iron	2,919	2,954	2,983
Stainless steel	575	598	636
Ferrochrome	231	256	260
Zinc	199	225	223
Copper	123	115	114
Nickel (cathode)	16	19	22
Cadmium (t)	520	700	680
Mercury (t)	54	55	77
Silver (t)	30	31	24
Selenium (t)	43	37	37
Gold (t)	5	7	5
Limestone	3,974	3,935	3,759
Apatite	716	734	751
Talc	498	508	501
Quart	174	203	174
Feldspar	42	44	39
Soapstone	40	37	38
Cement	1,232	1,299	1,423

<sup>1</sup> conc. and lump ore <sup>2</sup> pyrite residues