Cut-and-paste conversions:
100km = 62 miles
3.5 tonnes =
7.6 metres = 25 feet
5.5 metres = 18 feet
20,000m = 65,600 ft
100km = 62 miles
390km: = 242 miles
100km: = 62 miles
85,000 metres: = 278,870 ft
50-85,000 metres: = 164,000-278,870 ft
50,000 metres: = 164,000 ft
20,000 metres: = 65,600 ft
10,000 metres: = 32,800 ft

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Wealthy tourists reach for the stars

LONDON, March 21, Graphic News: The C-21 suborbital spacecraft is just a full-size model today, but by 2004 the space vehicle will give an adventurer with $98,000 to spare the chance to experience three minutes in zero gravity on the edge of space.

The three-seat snub-nosed shuttle is the project of Space Adventures, which helped the first space tourist, Dennis Tito, arrange a Soyuz rocket flight to the international space station last year. Tito reportedly paid the Russian space agency $20 million for his eight-day journey into space.

About 100 people have already paid $6,000 each to book seats to fly on the Cosmopolis-XXI (C-21), said Eric Anderson, president and CEO of Space Adventures. The company, based in Arlington, Virginia, is working with Russia's Myasishchev Design Bureau and the private Suborbital Corporation on the project to build the plane.

The C-21, accommodating a pilot and two passengers, will piggyback on top of a carrier airplane to an altitude of 20,000 metres (65,600 feet). Once released from the carrier, the ship's own solid-fuel rocket engine will automatically ignite to propel it to a maximum altitude of just over 100 kilometres (60 miles) -- penetrating the lower side of the ionosphere. At the top of its parabolic trajectory, after the rocket motor has burned out and detached, the crew will experience three minutes of total weightlessness.

The C-21 will then glide back into the middle atmosphere (mesosphere) and make a parachute-assisted touchdown like NASA's Space Shuttle. The entire mission from takeoff to landing will take about an hour.

The craft utilises technologies developed for the Soviet Buran space shuttle, which was also designed by Myasishchev. Buran Space Shuttle 1.01 was the first of five planned orbiters -- of which only two were fully completed. On November 15 1988 Buran 1.01 was launched on her first and only mission, a short, unmanned, two-orbit spaceflight, returning safely to Baikonur Cosmodrome.

With the financial problems already being experienced by the Soviet space program, however, Buran 1.01 was mothballed. Buran's sister ship is now a tourist attraction in Moscow's Gorky Park, where for $5 visitors can experience a simulated space ride.

Myasishchev has utilised the life support system and safety systems from Buran and solid-fuel engines from Russian ballistic missiles. The C21 will fly in an automatic mode but the pilot would be ready to take control if needed, explained Valery Novikov, head designer at the Myasishchev Design Bureau: "We will guarantee full safety to passengers."

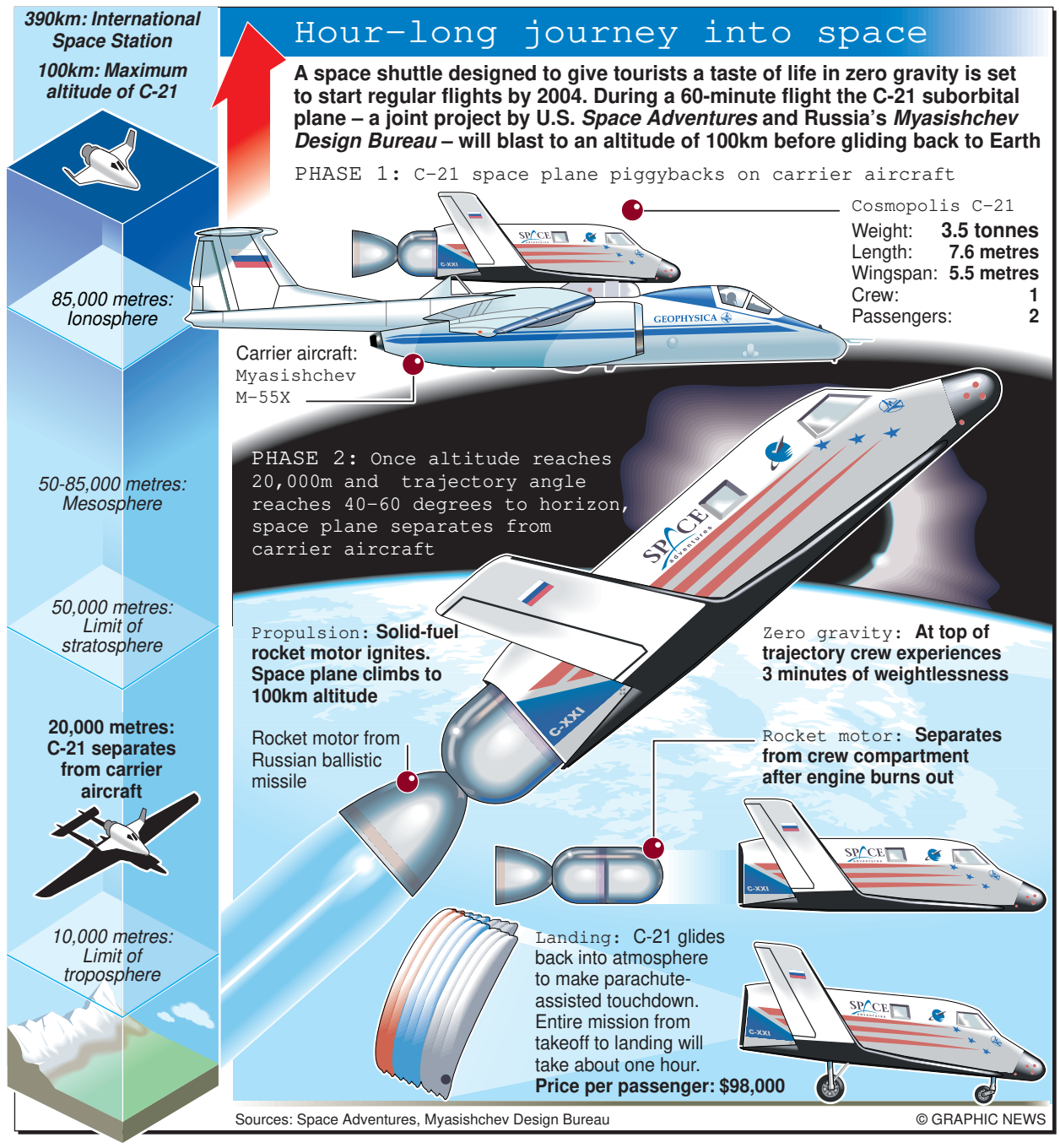
"A passenger will experience weightlessness and enjoy the view of the Earth from space," he said.

The carrier aircraft is also a Myasishchev design -- an M-55X "Geophysica." The M-55 was originally developed as the "Mystic," a Soviet version of the American U-2 spyplane, and is capable of flying to 27,000 metres (88,500 feet).

Suborbital Corporation chief Sergei Kostenko said it would cost $10 million to build and test the C-21. Once implemented, the project will cost $60 million, including two M-55 carrier aircraft and seven suborbital ships, which will fly three times a week.

The C-21 will be too late for the next space tourist. South African Internet tycoon Mark Shuttleworth, who is scheduled to blast off to the International Space Station in April on the top of a Soyuz. Once in space Shuttleworth will conduct three experiments, including crystallising the HIV virus under zero-gravity in the hope that, when X-rayed, scientists will gain an accurate view of the virus structure.
/ENDS

Sources: Space Adventures, Myasishchev Design Bureau



EDS -- DATA CORRECT AS AT MARCH 21, 2002

STORY TO LEFT OF GRAPHIC << STORY TO LEFT

CATEGORY:	Science and Technology
IPTC CODE:	SCI,OVR :Science
SUBJECT:	SCIENCE: Space tourism shuttle plane
ARTISTS:	Duncan Mil, Phil Bainbridge, Adrian Dean, Jordi Bou, Julie Mullins (research)
ORIGIN:	GRAPHIC NEWS
TYPE:	Colour / Adobe Illustrator version 8.01
SIZE:	3 columns by 177mm deep
DATE:	21/3/2002
SOURCES:	Space Adventures, Myasishchev Design Bureau
GRAPHIC #:	13599

STANDARD MEASURES (SAU)

Width	Picas	millimetres
1 col	12p5	52.3
2 col	25p7	107.7
3 col	38p9	163.2
4 col	52p	219.0
5 col	65p1	274.4
6 col	78.p3	329.7

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