CHEAP ACCESS TO SPACE

'Cheap' is an important word in space technology nowadays and re-usable rockets will be a key way of controlling costs. They will deliver things to orbit, bring stuff back to Earth and then go up again, perhaps with machinery for a space factory, or even carrying tourists.

NASA, the US government-owned space program, plans to develop such a rocket. [1] Since this will require different technology, it is more likely that people outside the NASA program will develop re-usable rocket design.

Rick Tumlinson, co-founder of the Space Frontier Foundation (SFF), firmly believes that it is time for businesses to get involved. [2] '25 years after the Wright brothers, people could buy a commercial plane ticket, but 25 years after landing on the Moon, we sat around watching old astronauts on TV talking about the good old days.' However, this situation is due to change. Recently, Tumlinson was one of only 20 guests invited to the White House to hear the President announce his plans to return to the Moon and explore Mars.

Using his high profile, Tumlinson is going to try to prove a point. Space is our destiny, he says, so why not get on with it? [3] For example, Rotary Rocket is working on something that would be launched like a rocket but return like a helicopter. Pioneer Rocketplane believes there could be a billion dollar market in taking packages from one side of the planet to the other in an hour.

[4] 'Our goal is to become a delivery service to low Earth orbit that will radically re-align the economics of doing business in space. Satellites will be our parcels; our vehicles will be orbiting as efficiently as air freight carriers.'

The SFF ran a survey on the internet called 'Cheap Access to Space', where it asked American taxpayers for their opinions on the current US space program and future priorities for space transportation. Its own view is that it is impossible for NASA to offer an 'open frontier'. [5] NASA is 'elitist and exclusive', whereas the SFF believes in opportunities for everyone: 'a future of endlessly expanding new choices'.

The SFF wants to see 'irreversible human settlement' in space as soon as possible and maintains that this is only going to happen through free enterprise. It is inappropriate for government-sponsored astronauts to be building buildings and driving trucks. [6]

Once space transportation becomes affordable, mass space travel will be possible. Many people believe that by 2015, space tourism will have become a viable industry. However, US government officials don't see a future for space tourism. [7] David Ashford, Managing Director of Bristol Spaceplanes Limited, once said that space tourism would begin ten years after people stopped laughing at the concept. People have already stopped laughing.

5 Now underline the words and phrases in sentences B–H that link to the text and decide on your answers.

A At the same time, the SFF accepts that NASA's missions could bring other scientific benefits.

B Several companies already have blueprints for getting into space and back cheaply.

C Commercial activity such as this is what the private sector should be doing.

D However, its immediate priority is missions to Mars from the Moon.

E Here again, private companies may well prove them wrong in the very near future.

F This is not a matter of budgets or schedules, but of fundamental purpose and design.

G He sees the NASA program as a bit of a dinosaur.

H Another company, Kistler Aerospace, has similar plans.