OPERATIONS: SPACEFLIGH T

And first prize is...a

journey into space
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pace Travel Services, a
Houston-based company,
has booked a 1992 flight aboard
the Soviet space station Mir for
the winner of a national sweep-
stake to become the first tourist
in space. The USSR says that a
contract has not yet been
signed.
The company will pay more
than $12 million for the two-
day ride in a Soyuz TM ferry,
docking with Mir and returning
to Earth after eight days in
space.
Space Travel Services will
raise its money through a tele-
phone sweepstake. The winning
candidate will, however, have to
pass the Soviet medical, learn to
speak Russian and undergo sim-
ilar training to that of the guest
cosmonauts currently preparing
for commercial flights.
The first passenger, Japanese
TV reporter Toyohiro Akiyama
completed his eight-day ride on
10 December. His employer, the
national TV station TBS, which
paid SI2 million to the USSR,
made a $7.4 million loss in the
venture.
TBS has criticised the Soviet
approach to the commercial
flight, its first attempt at mar-

keting its space programme.
"During the preparations," says
Itiro Sasaki, a TBS producer,
"various new bodies would keep
on appearing on the scene and
all would demand their cut, and
doing so, further complicated
the commercial aspects of the
deal. They have the most ad-
vanced space . programme but
they're no good at business."
Such experience will serve as
a warning to future commercial
customers," including Britain's
Project Juno, whose cosmonaut,
either Tim Mace or Helen Shar-
man, is expected to launch on
16 May. It is still unclear how,
if at all, the Juno flight will be
paid for.
The UK has been left with
little time to put together a
creditable array of British exper-
iments to keep Mace or Shar-
mon busy, but the Britons will
operate some Soviet experi-
ments for the Energia bureau as
part of the deal.
Other countries due to take
Soviet commercial flights in-
clude Austria — who's astro-
naut is due to take off on 2
October — France, Germany
and Spain, which are paying up
to $25 million per mission. D

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SPACEHAB TAKES 234 BOOKINGS The first six Space Shuttle missions of Spacehab's mid-deck augmenta-tion module are now 78% hooked, following a $184 million contract from NASA for the use of 200 lockers and $43.8 million-worth of bookings for 34 lockers from other commercial customers. Six Shuttle missions will allow the flight of 300 lockers. Spacehab will pay NASA S28.2 million a mission and is still marketing module space. NASA is providing Spacehab with $7.9 million to help fund the first mission.

Space Shuttle Flight Manifest 1991

Mission Orbiter Date Major payload(s)
STS39 Discovery Feb DoD, IBSS/CIRRIS
Crew: Coats (Cdr), Hammond (Pil), Harbaugh, McMonagle, Bluford, Hieb, Veach(MS).

STS 37 Atlantis Apr Gamma Ray Observatory
Crew: Nagel (Cdr), Cameron (Pil), Ross, Apt, Godwin (MS).

STS 40 Columbia May Spacelab Life Sciences 1
Crew: O'Connor (Cdr), Guitierrez (Pil), Seddon, Bagian, Jernigan (MS), Gaffney Hughes-Fulford (PS).

STS 43 Discovery Jul TDRS-E
Crew: Blaha (Cdr), Baker (Pil), Lucid, Low, Adamson (MS).

STS 44 Atlantis Aug DoD, DSP early warning craft
Crew: Gregory (Cdr), Henricks (Pil), Musgrave, Runco, Voss (MS).

STS 48 Discovery Nov
Crew: Not assigned

Upper Atmosphere Research Satellite

STS 42 Atlantis Dec Int. Microgravity Laboratory
Crew: Grabe (Cdr), Oswald (Pil), Carter, Thagard, Readdy (MS) Merbold, Bondar(PS).

1991 NASA missions manageable T

he NASA Shuttle flight
manifest for 1991 features
the first unclassified Depart-
ment of Defense mission, STS
39 Discovery; the first dedicated
US life-sciences manned mis-
sion, STS 40 Columbia; and the
much-delaye d Internationa l
Microgravity Laboratory mis-
sion, STS 42 Atlantis.
In previous years, NASA has
produced an over-ambitious
manifest only to be thwarted by
technical problems. The agency
seems to have learned from the
experience, listing what should
be a manageable seven missions
for 1991. NASA managed six
missions in 1990, even with the
five-month delay due to Shuttle

hydrogen leaks. There were
a record nine missions flown
during 1985.
The STS 39 Discovery mis-
sion, flying the Cirris and IBSS
payloads for the US Air Force
and the Strategic Defence Initia-
tive Office, will for the first time
have a crew of seven NASA
astronauts, two of whom are
replacing scheduled US Air
Force Manned Space Engineer
(MSE) payload specialists.
The MSE programme, origi-
nally scheduled to carry payload
specialists on all Department of
Defense Shuttle missions, has
apparently ended, after carrying
only two specialists on two mis-
sions in 1985. •

NEW S I N BRIE F

OLDEST SPACECRAFT
NASA's Pioneer 6, the oldest
operating spacecraft, cele-
brated 25 years in space on
16 December.- It was
launched into solar orbit by
a Delta rocket from Cape
Canaveral. Its mission was to
return to Earth the first de-
tailed measurements of mag-
netic fields, cosmic rays, smd
solar-wind particles on* the
other side of the Sun. The
64kg, cylindrical TRW-built
spacecraft was expected to
transmit for six months.

Wobbly Ulysses goes on
A

warped antenna boom on
the Ulysess spaceraft en
route to Jupiter for its swing-by
solar-polar flight in 1994, has
caused the craft to wobble, dis-
rupting transmissions.
Although the disruption can
be counteracted by the firing of
thrusters, scientists fear that up
to 90% of the data returned
could be lost.
The boom, built by Dornier,
was coated with copper-beryl-
lium, which reflects solar en-
ergy less efficiently than other
insulation on the spacecraft,
and may have caused the boom
to warp. •

FLIGHT INTERNATIONAL 2 - 8 January, 1991 II