HEADLINES

that number will be sold by the
end of the decade.
Further complicating the issue
is the question of Airbus Indus-
trie's forthcoming launch of the
130-seat A319. While this is
seen as complementary to other
Airbus offerings, and not com-
peting with the regional jets, its
launch will be dependent on the
availability of sufficient funds
from the partner companies.
The German Government is
already being pressed to help
fund the Regioliner programme
and its associated engines. The
two engine consortia vying for
German funding — MTU with
Pratt & Whitney and BMW with
Rolls-Royce — have already
begun exploratory talks on a
tie-up of their new programmes.
Airbus says it will fund A319
development internally, but Ger-
many wants final assembly, for
which it would have to pay.
A DASA decision in favour of
Fokker would be good news for
UK aero-engine builder R-R,
which has its Tay engine on the
Fokker 70 and 100 programmes.
A DASA decision to follow the
Fokker edict and abandon the
Regioliner agreement would
leave Aerospatiale and Alenia
without a regional-jet pro-
gramme, and end the co-
operative marketing agreement
between the three companies
covering their turboprop and
jet aircraft. •
See Business P 20

Pre 1960 1960s 1970s

n_ T3~"

Caspian Sea Monster

Prototype and FSD Russian vehicles
F T |Orlan (Orlyonok)

1980s

Utka

Bartini II

1990s

Numerous small scale vehicles (including Panchenkov's ADP series, Eska,

Volga-2, Moscow Aviation Institute Craft)

Theoretical and experimental Russian work

Ekranoplan development

USA joins Russia on Wingship

BY MIKE GAINES

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he USA and Russia are to
co-operate on the develop-
ment of 5,000t-class wing-in-
ground-effect (WIGE) cargo
vehicles based on Russian
Ekranoplan technology (Flight
International, 15-21 January).
Aerocon, a Virginia-based
company funded by the US De-

Hughes protests Northwest choice
H

ughes Aircraft has lodged a
protest with Northwest Air-
lines after the US carrier short-
listed rivals GEC Avionics,
Rockwell-Collins and Sextant
Avionique to develop a head-up
guidance system (HGS) for its
Boeing 747-200s and McDonnell
Douglas DC-lOs.
The Hughes protest follows its
$14.5 million acquisition of
leading HGS manufacturer
Flight Dynamics. The move
strengthens Hughes' efforts to
develop an autonomous landing
guidance system, the company's
first venture into commercial
avionics, but it failed neverthe-
less to make the Northwest
shortlist. Pricing may have been
a factor, competitiors suggest.
The shortlisted manufacturers
will participate in a five-month

simulator evaluation pro-
gramme, says Dwayne Edelman,
Northwest's manager, flight
operations-, development tech-
nology programmes. The most
promising candidate system will
be flight-tested and, if success-
ful, will be retrofitted to North-
west's 747s and DC-lOs, he says.
Evaluation and certification will
take 24 months.
Northwest's request for pro-
posals called for a head-up dis-
play with the capability to
present infra-red or radar run-
way images, allowing takeoffs
and landings in low visibility.
Initial certification will be for
the head-up guidance system
only, Edelman says, with growth
to an enhanced vision system
combining sensor and display
coming later. •

fense Advanced Research Pro-
jects Agency to explore the use
of WIGEs for military applica-
tions, visited Ekranoplan experts
at the Panchenkov and
Alekseyev design consortia in
January. Both Russian concerns
have signed co-operation proto-
cols with Aerocon.

The Alekseyev team, responsi-
ble for the huge "Caspian Sea
Monster" of the early 1970s and
the later Orlyonok series — both
of which have flown — has
designs better suited to a sea-
going craft, says Aerocon presi-
dent, Steve Hooker, while the
Panchenkov designs, named
after early Ekranoplan re-
searcher Bartini, appear better
suited to a trans-tundra concept.
A number of the Alekseyev de-
signers are to visit the USA soon.
The present plan is to set up
a new group called the Ameri-
can-Russian Wingship Engineer-
ing and Manufacturing Research
Centre, sharing bases at Hampton,
Virginia and Niizhniy-Novgorod.
Hooker says: "We aim to
bring Russian scientists]• to
Hampton and begin a trans-
engineering process. We need to
translate their concepts into-en-
gineering and then into the
American engineering conven-
tion. We will pay the Russians
for hardware used in testing. We

are talking to Lockheed and
General Dynamics on structures
and Pratt & Whitney and Gen-
eral Electric on engines."
"We think that the 5,000t
class is possible, using smart
structures. We believe that the
Achilles heel would be materials
and their joins and fasteners."
The proposed 5,000t military
Wingship, powered by 20 large
turbofans, would have a l,500t
payload. The cost of develop-
ment is estimated at $15 billion
and unit cost is $400 million.
The USA is studying Ekrano-
plans, which it calls Wingships,
for the US Navy's Military Sealift
Command as a troop/cargo trans-
port, able to install and support
a task force. Russian interest is
in a cross-tundra transport. •

NEWS IN BRIEF

NEW 146 ORDER
UK carrier Dan-Air has traded
its two leased BAe 146-100s
against two -300s for delivery
in mid-1992. It has agreed to
replace the -300s, and also
two already in service, with
four new Category IIIA land-
ing-system-equipped -300s
which will be available next
year. It has taken options on
two further such aircraft.

FLIGHT INTERNATIONAL 11 - 17 March, 1992 b