

EXPERIENCE  
AIMED AT THE FUTURE



# ANTONOV-178

TRANSPORT  
MULTIPURPOSE  
AIRCRAFT



ANTONOV



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## Conception and missions

AN-178 is intended to fulfill the following main tasks:

- Transportation of civil-purpose cargoes, IATA and sea containers and pallets, engineering vehicles at regular and charter routes;
- Participation in special and humanitarian missions;
- Aeromedical transportation of sick and injured persons;
- Transportation of troops with light vehicles and armaments;
- Airdropping of paratroops, vehicles, cargoes and maintenance items.

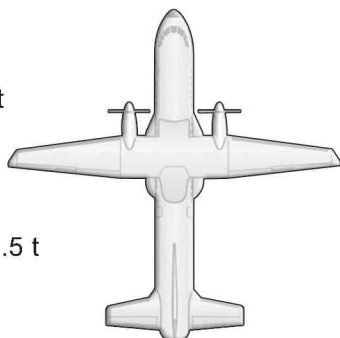


AN-178 is intended to replace AN-12 and C-160 and provides with the following:

- full replacement through dimensions and cargo capacity;
- maximum efficiency owing to superiority by all flight and technical characteristics;
- reduction of operating cost owing to installation of two turbojets instead of four or two turboprops;
- correspondence to all modern requirements and standards due to airborne equipment and avionics of a new generation.

### C-295

MPL = 9 t

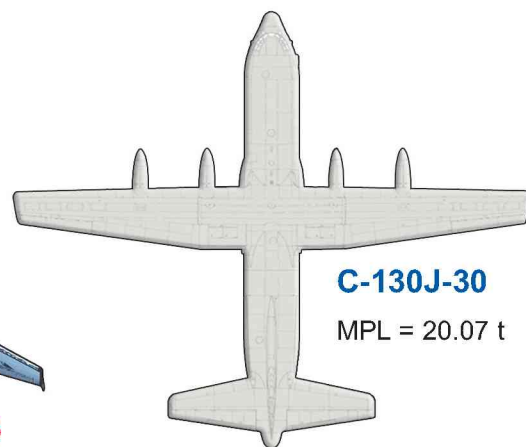


### C-27J

MPL = 11.5 t



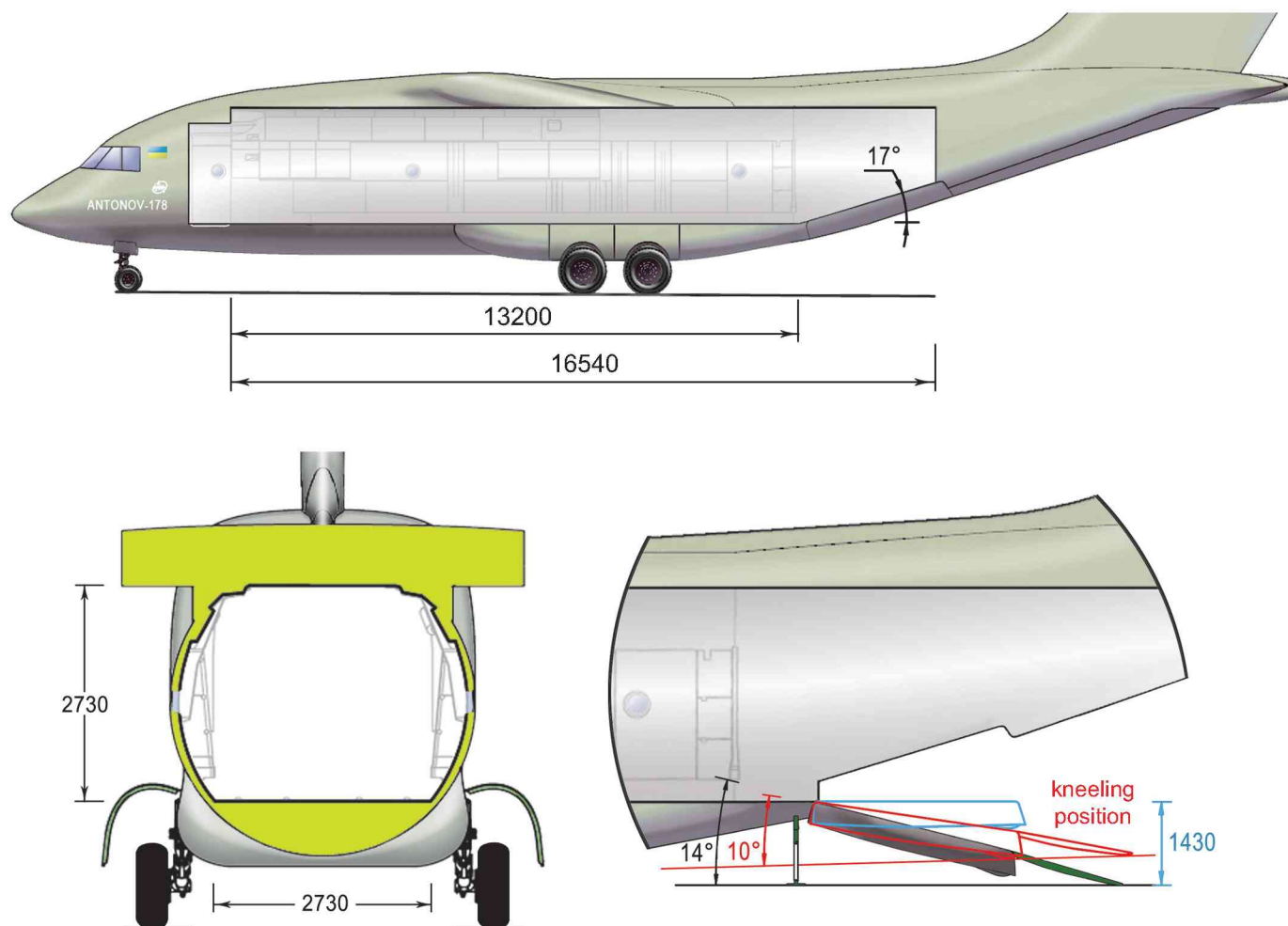
MPL = 16-18 t



MPL = 20.07 t

**AN-178 position  
among transport  
aircraft**





**Floor area:** - with cargo ramp ..... 58.5 m<sup>2</sup>  
 - without cargo ramp ..... 39 m<sup>2</sup>

**Cabin volume:** - with cargo ramp ..... 167 m<sup>3</sup>  
 - without cargo ramp ..... 122 m<sup>3</sup>

**AN-178 cargo compartment dimensions** enable to transport a wide range of general cargoes, including sea containers, military and humanitarian cargoes. The aircraft is equipped with a main landing gear kneeling system intended to simplify loading of the vehicles into the cargo compartment. Due to capabilities of onboard loading complex (option) AN-178 can perform autonomous cargo loading/unloading while additional ground handling equipment is not required.

## Loading/unloading complex includes:

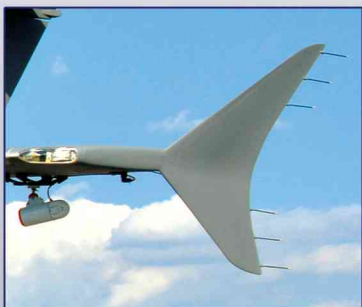
- 2 electric winches with tractive force of 1000 kgf for loading of non-self-propelled wheeled cargoes;
- roller track equipment ensuring loading and unloading of cargoes, their placing at pallets and in containers;
- 2 overhead cranes with lifting capacity of 8000 kgf (suggested to a customer as an option).

## The aerial delivery system enables to carry out the following:

- single, groupe and serial airdropping of cargoes, as well as airmission landing;
- transportation of troops and their paratropping through the cargo hatch and fuselage doors in two groups (option) or through the cargo hatch in one group;

AN-178 enables to perform air dropping of monocargoes weighting up to 7.5 t.

## Highlights



### WINGLETS

fuel  
consumption  
reduction

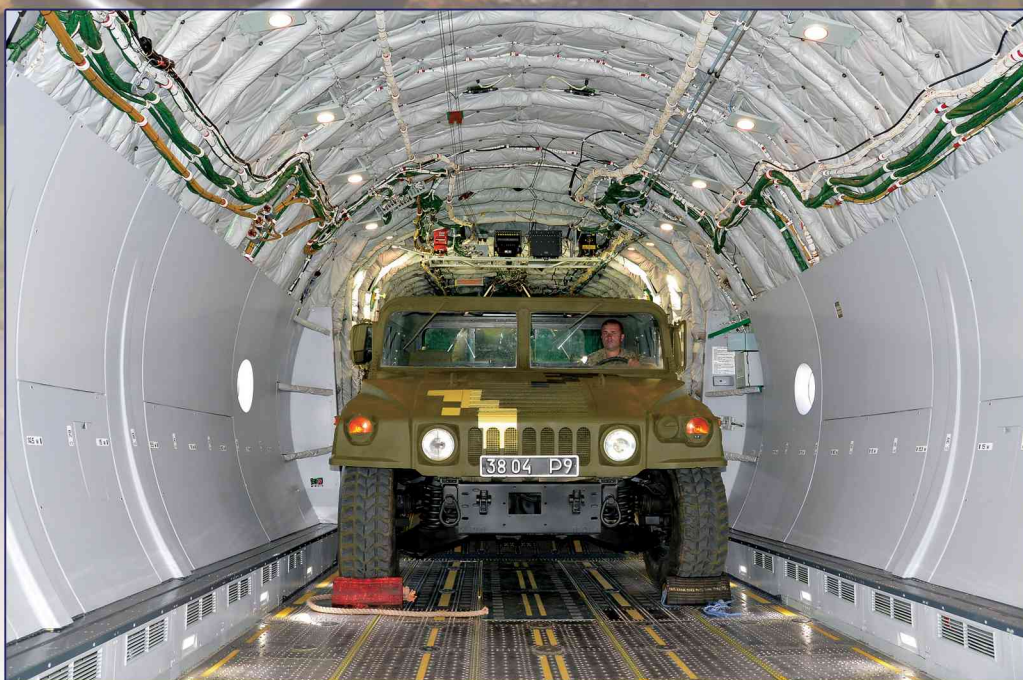


### APU

autonomous  
operations

### ONBOARD MAINTENANCE CONTROL SYSTEM

for optimization  
of maintenance  
process



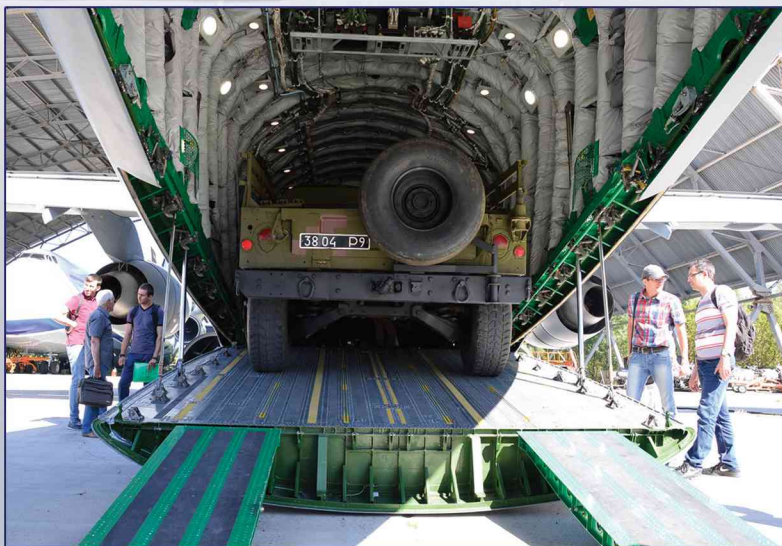
### PRESSURIZED CARGO CABIN

for the purpose of  
solution of standard  
military and civil  
missions





**EMBEDDED  
DOOR**  
with  
integrated  
stairs



**PRACTICAL  
RAMP**  
with kneeling  
system



**LANDING GEAR**  
for operations on  
unpaved runways

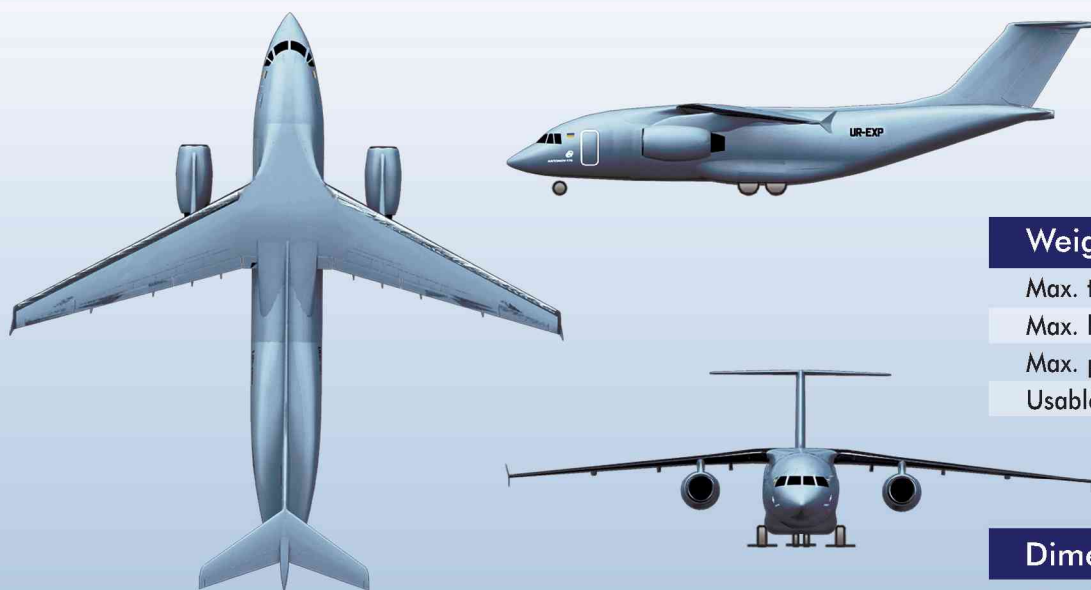
**EMERGENCY  
HATCH**  
evacuation of personnel  
at emergency  
conditions



**POWER PLANT**  
proven and reliable







## Weights:

Max. take-off weight, t	51/52,4
Max. landing weight, t	47
Max. payload, t	16/18
Usable fuel capacity, kg	14 650

## Dimensions:

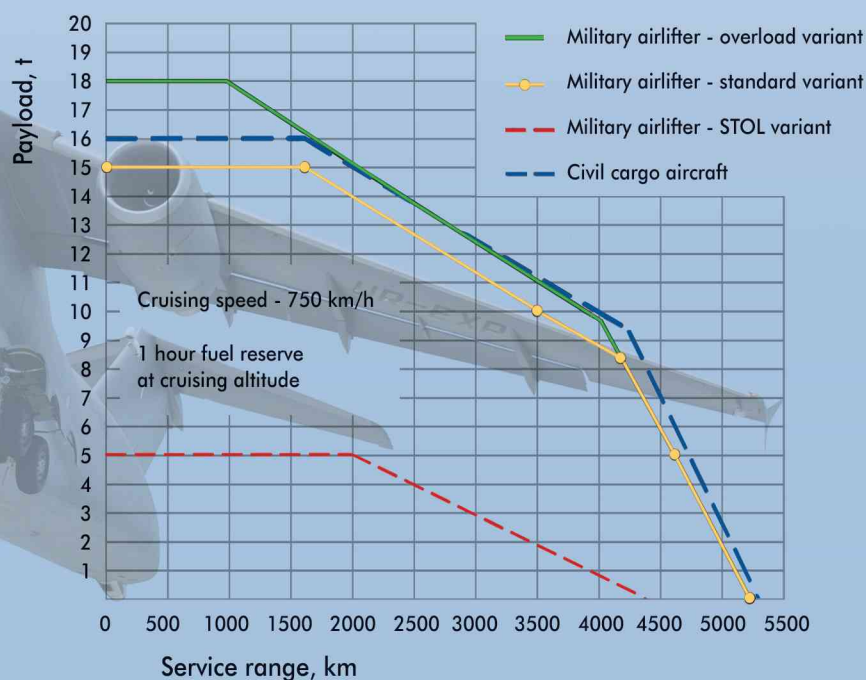
Overall length, mm	32230
Overall height, mm	9570
Wing span, mm	30570
Cabin length, mm	16540
Cabin height, mm	2730
Cabin width, mm	2730

## Performance:

Max. cruise speed, km/h	825
Max. altitude, m	12200
Equivalent cabin altitude, m	2300
Ferry range, km	5300
Required field length (ISA, SL), m	2500

## Power plant:

Engines:	2 x D 436-148FM (16 534 lbf each)
APU type:	TA 18-100





The flight, navigation and radio communication equipment is compliant with current and future ICAO recommendations and EUROCONTROL requirements, including:

- Precise navigation in accordance with RNP-5 and RNP-1;
- Flying in RVSM zones;
- Automated flight planning with navigation database;
- Flights in automatic mode by SID, STAR, APPROACH, MISSED APPROACH standard schemes;
- Terrain Awareness and Warning System;
- Traffic Collision Avoidance System;
- Detection of wind shear;
- Radio communication within 8.33 kHz channel spacing;
- Two-way communication within HF range;
- Recording of the crew members' conversation during two hours.

## Operation envelope

### Operation at runways:

- aerodromes of I and II Landing Category;
- coefficient of friction  $\mu > 0.3$ ;
- dry runway;
- damp runway;
- wet runway without ditch-water areas or with ditch-water areas up to 10 mm deep at square less than 50% of the runway area;
- hoar-frost-covered runway;
- runway covered with slush up to 15 mm thick;
- runway covered with dry snow not more than 50 mm thick;
- runway covered with wet snow not more than 15 mm thick;
- unpaved runways.

### Limits:

1. The airfield elevation over the sea level from -300 to 4100 m.
2. The environment air temperature from -45 °C to +45 °C.
3. Wind speed limits:
  - headwind 30 m/s;
  - tailwind 5 m/s;
  - crosswind 30 m/s;
  - while taxiing and towing (from all directions) - 30 m/s;
  - max flight altitude 12.200 m;
  - $M_{\max} = 0.85$ .



During the whole period of aircraft operation ANTONOV Company provides its after-sale support.

Basing on contract conditions ANTONOV will render the following product support services:

**Design authority follow-on support of aircraft operations:** specialists of the Information Center for Customer Support provide Customer's representatives with services of round the clock (24/7/365) information and technical support of Customer's aircraft operations.

**Information support:** Customer's representatives are provided with authorized remote access to technical publications at the ANTONOV website.

**Logistic support** of the aircraft operated by the Customer by means of supplying the required components, their repair and return to service.

**Training and periodic retraining** of Customer's flight, engineering and maintenance personnel:

- theoretical training in equipped classes;
- practical training at ANTONOV and Customer's aircraft;
- flight personnel training at ANTONOV simulators, including D level simulators.

**Maintenance of Customer's aircraft:**

- on production facilities, approved by Part-145 organization on ANTONOV maintenance;
- within certified service centers;
- at places of aircraft deployment by certified ANTONOV personnel.

**Modifications to Customer's aircraft** according to service bulletins, developed by ANTONOV Company.

**Reconditioning repair** of Customer's aircraft by efforts of ANTONOV Company at their home bases or at the location in case of emergency.

**Maintenance program** development of aircraft according to Customer's requirements.

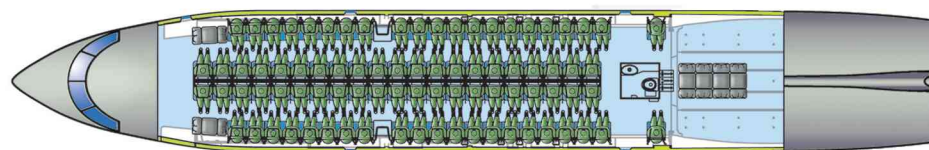
## Maintenance Structure

Check	Time interval	Man-hours
Line maintenance		
Pre-flight Check	Before the flight (performing by flight crew)	0,15
E-Check	48 hours	2,2
W-Check	Once every 2 weeks	9,5
Base (periodic) maintenance		
A-Check	750 FH or 6 months	55
SA-Check	300 cycles or 6 months	6
C-Check	7500 FH or 36 months	100
SC-Check	3000 cycles or 36 months	250

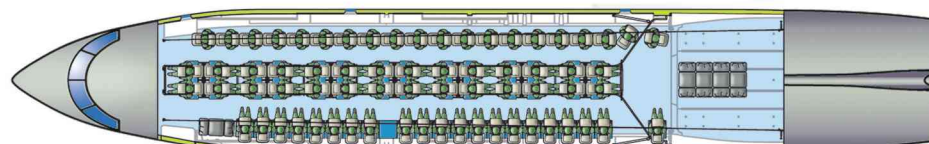




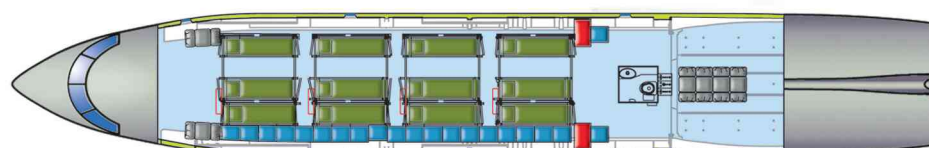
## Transportation of personnel



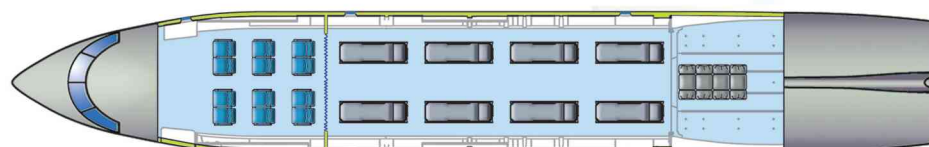
90 soldiers



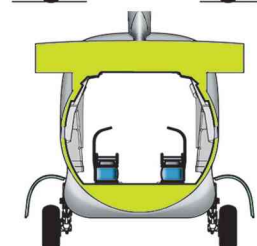
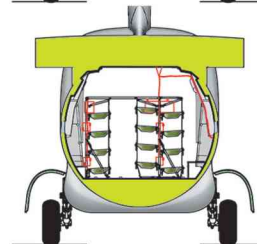
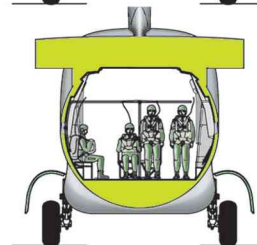
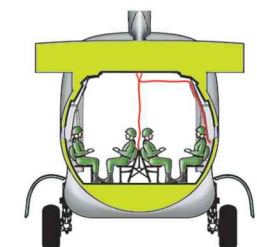
70 paratroops



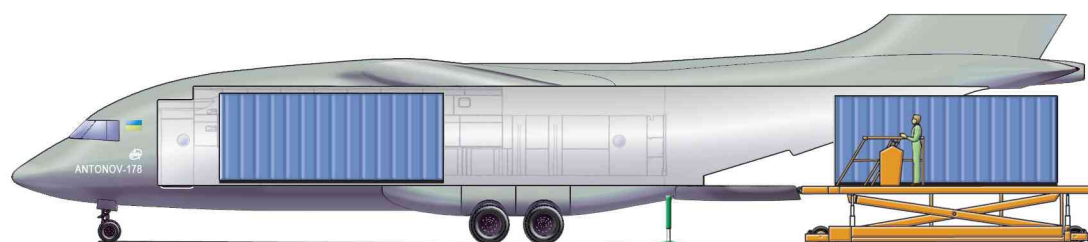
48 wounded on stretchers + 15 at the seats



8 medical modules and 12 attendants



## Loading variants



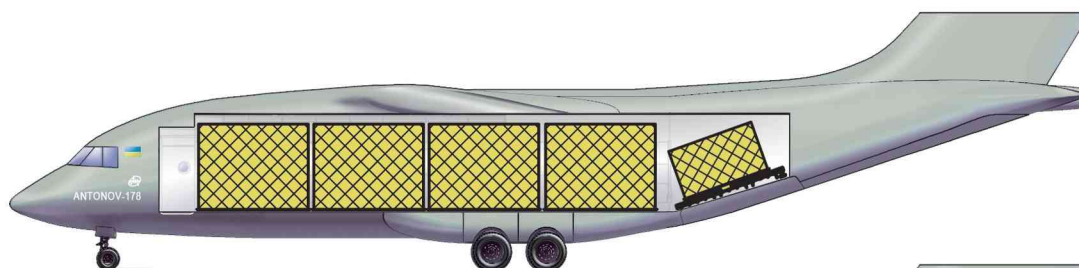
Loading of pallets and containers by handling machine



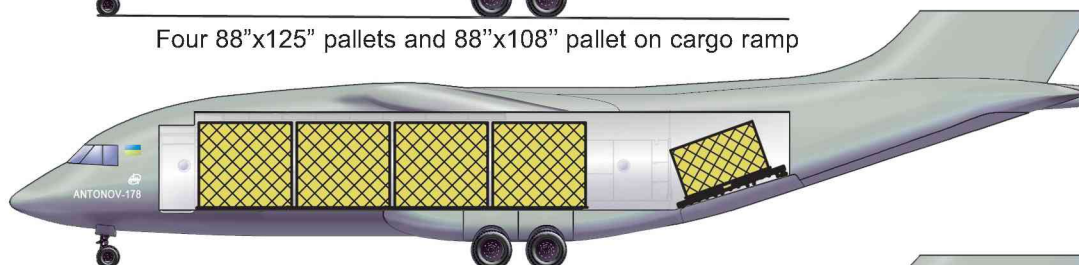
Loading by forklift



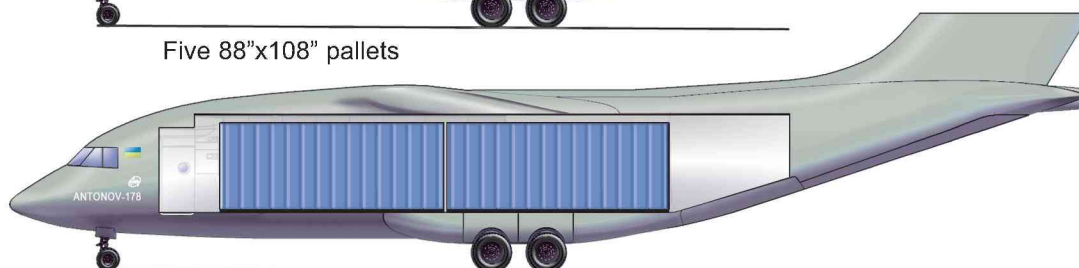
Loading the turbojet engine by upper handling equipment (option), max. cargo weight up to 8 t



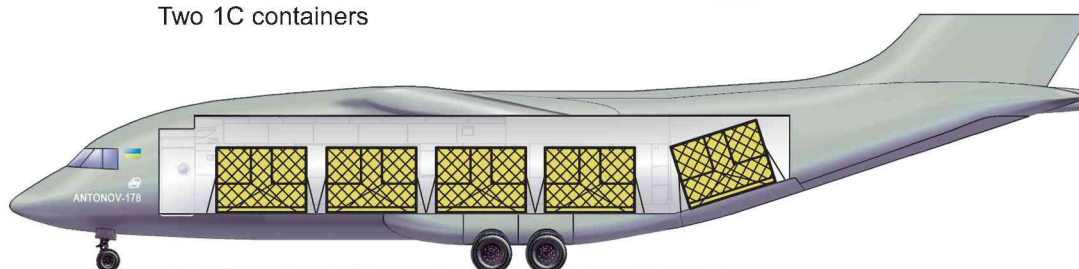
Four 88"x125" pallets and 88"x108" pallet on cargo ramp



Five 88"x108" pallets



Two 1C containers



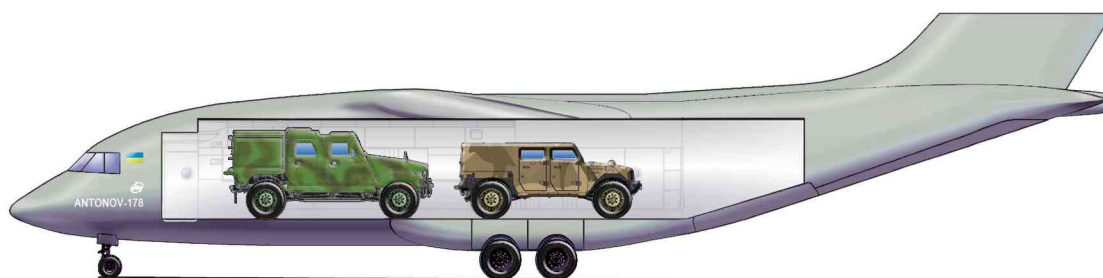
Cargo in bulks under a net

Carriage	Items	Weight, t
Soldiers, pers.	90	10.8
Paratroopers, pers.	70	8.3
Wounded at the stretchers + at seats, pers.	48+15	6.0
Containers, inch (m):		
<b>M1</b> 96" x 96" x 125" (2.438 x 2.438 x 3.175)	4	18.0*
<b>M2</b> 96" x 96" x 238.5" (2.438 x 2.438 x 6.058)	2	18.0
<b>M3</b> 88" x 96" x 125" (2.235 x 2.438 x 3.175)	4	18.0
<b>1D</b> 96" x 96" x 117.8" (2.438 x 2.438 x 2.991)	2	18.0
<b>1C</b> 96" x 96" x 238.5" (2.438 x 2.438 x 6.058)	2	18.0
Pallets, inch (m):		
88" x 108" (2.235 x 2.743)	5	18.0
88" x 108" (2.235 x 3.175)	4	18.0
88" x 108" (2.438 x 3.175)	4	18.0
88" x 108" (2.438 x 6.058)	2	18.0

\* For commercial application max. payload is up to 16 t



## Transportation of self-propelled vehicles



**EAGLE IV 4x4 + SHERPA 2 4x4**



**M113A-3 + GAZ 66**



**KMW F2**



**HMMWV M1165A1, M1167A1, M1152A1**



**HMMWV M1165A1 + 3 Fantoms**



**BARS 8 and BARS 6**







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