

S7 Technics - leading MRO provider in Russia & CIS



Company structure



Production & Financial figures

1000

A-Cheks
Per year

250

supported flights
Per day

200

groups of technicians
trained per year

100

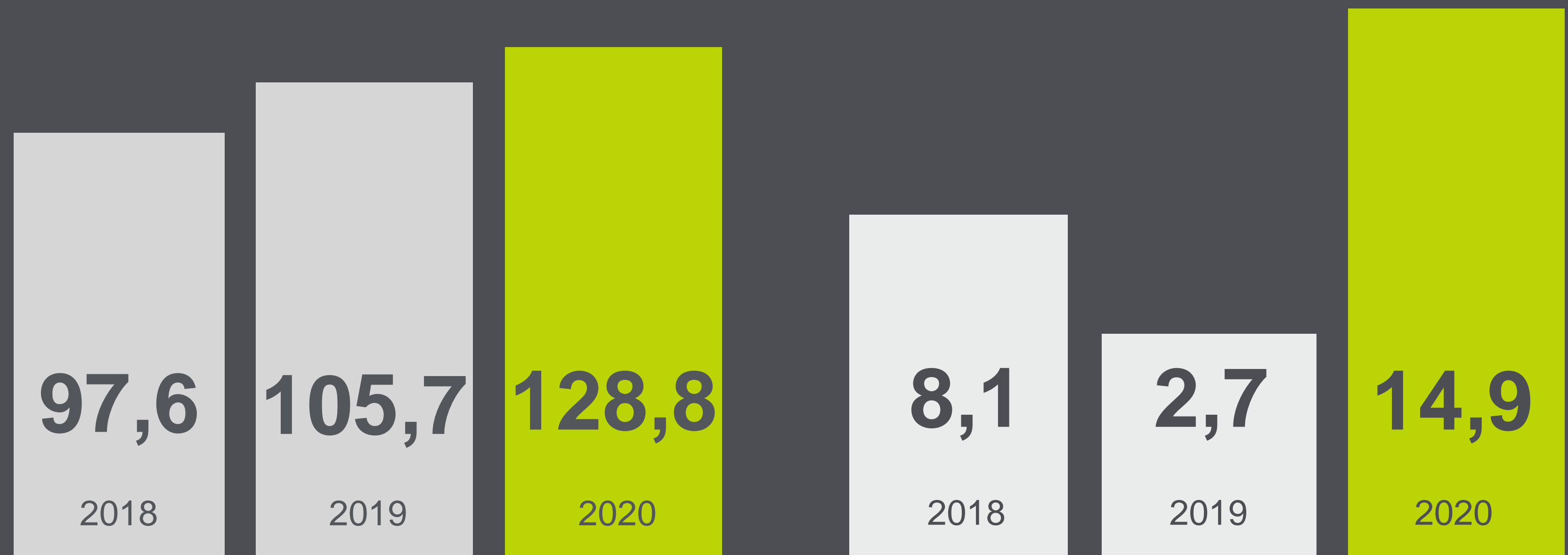
heavy maintenance
base checks per year

30

aircraft per year
paint capabilities

Revenue, mln. USD

Investment, mln. USD



Approvals/Certificates



Part-145
Part 147
Part-21J
Part-21G



OTAR-145
CAMO OTAR 39 Subpart F



ISO 9001-2015
BS/EN 9110-2018



FAR-285
FAR-289



ISO 17025 (FTL)

Products & Services

Base & Line maintenance

Aircraft painting

Engineering support

Part 21 J & G services

Component overhaul

Engine maintenance & repairs

Structure repairs

Non-destructive testing

Production & Repair of aircraft interior components

Aviation training center

Flight Data analysis

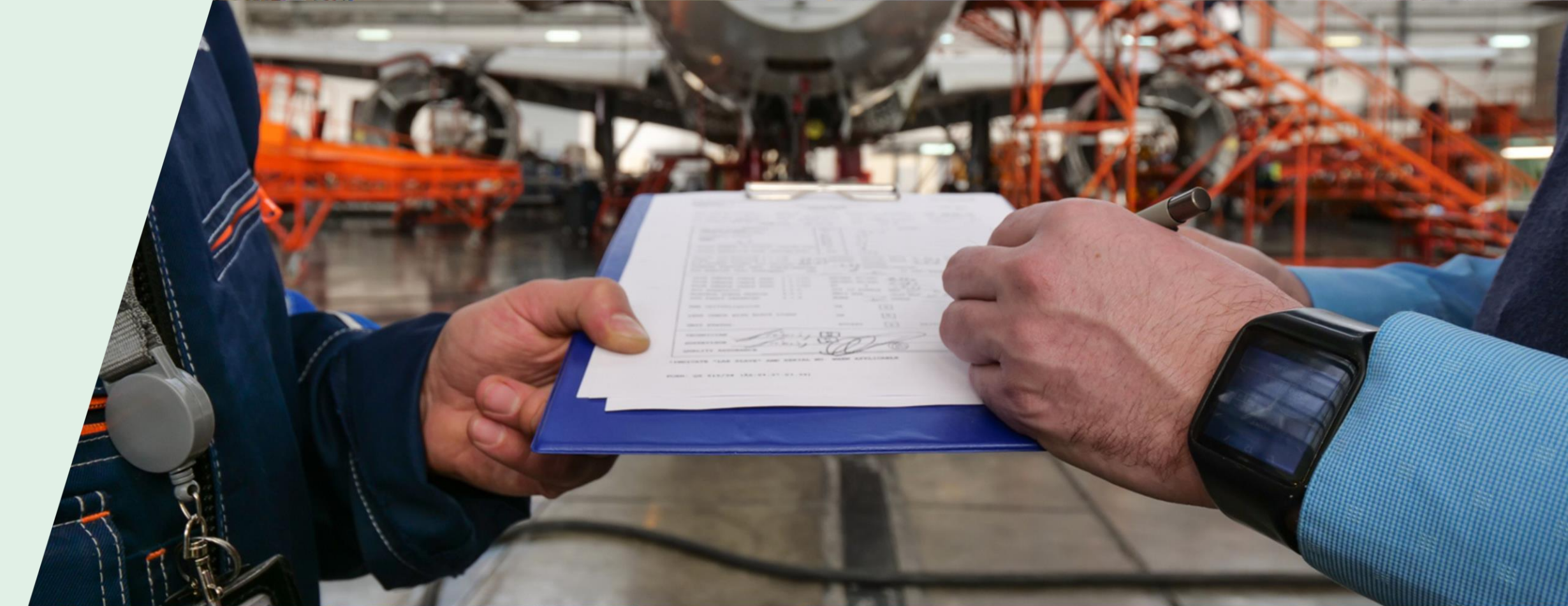
Logistics support

Customs broker service

Vacuum toilet shop

Heat exchangers repair

Aircraft redelivery support



New aircraft types: A320neo & B737MAX

- A320NEO with PW1100 engines
- B737MAX with LEAP-1B engines



Capability list – AC types by geography

● Line maintenance
● Base maintenance

	Airbus A320 CEO	Airbus A320 NEO	Boeing 737 CL	Boeing 737 NG	Boeing 737 MAX	Boeing 757	RRJ 95	Embraer 170	MC-21 (planning to receive)
DME	● ●	● ●	● ●	● ●	● ●	● ●	● ●	● ●	● ●
MRV	● ●		● ●	● ●			●		
OVB	● ●	● ●	● ●	● ●	● ●	● ●		● ●	
IKT	●	●		●				●	
VVO	●	●		●					

MRO's - Geography



A map of Russia, filled with a yellow dot-matrix pattern. Five locations are marked with green dots and labeled: Moscow, Mineralnye Vody, Novosibirsk, Irkutsk, and Vladivostok. The map shows the geographical distribution of MRO (Maintenance, Repair, and Overhaul) facilities across the country.

● **Moscow**

● **Novosibirsk**

● **Irkutsk**

● **Mineralnye Vody**

● **Vladivostok**

Base maintenance stations



Domodedovo

Capacity:	
Narrow body.....	7
Wide body.....	3
Hangar space	12 160 m²
Production.....	4 680 m²
Storage area.....	4 170 m²



Novosibirsk

Capacity:	
Narrow body	6
Wide body.....	2
Hangar space	10 350 m²
Production	3 110 m²
Storage area.....	3 280 m²



Mineralnye Vody

Capacity:	
Narrow body.....	4
Hangar space	9 830 m²
Production	6 790 m²
Storage area.....	1 580 m²

Components and systems repair

Modern shops & labs of S7 Technics perform overhaul and maintenance of a variety of AC systems and components for major aircraft types, including:

- Air conditioning & pressurization
- Automatic flight control
- Communication & navigation
- Power & lighting
- Onboard kitchen equipment & interior
- Aircraft engines and APU
- Aircraft control
- Hydraulics
- Landing gear
- Oxygen equipment
- Pressure maintenance & regulation
- Fire extinguishing & de-icing equipment
- Component structure repair
- Evacuation equipment
- Vacuum toilets

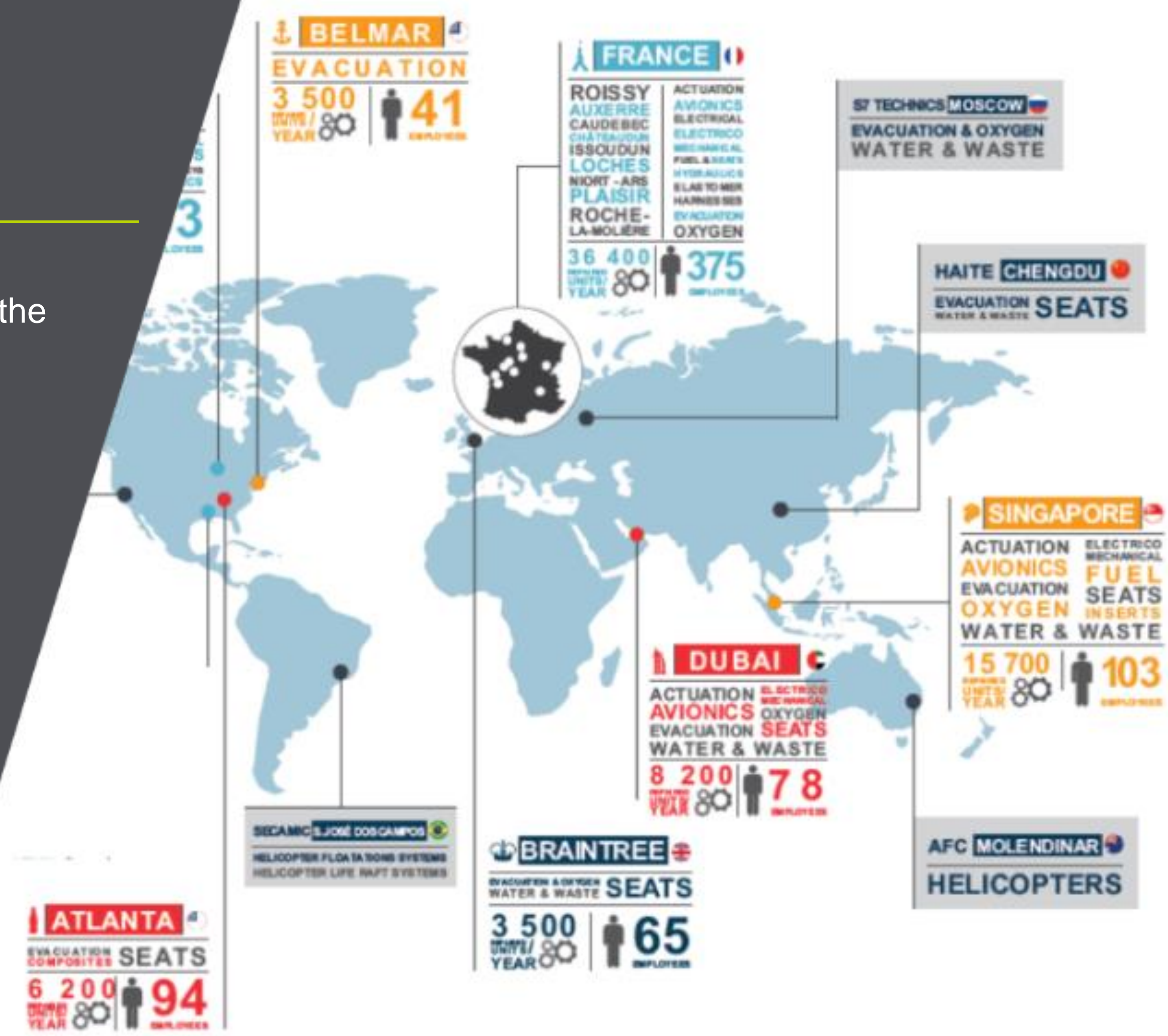


Components and systems repair

S7 Technics is the only MRO in Russia & CIS fully authorized by Safran Aerosystems to support water & waste, oxygen & evacuation equipment on the aftermarket.

Three MRO shops are up and running in close cooperation Safran Group. S7 Technics specialists perform maintenance and overhaul of:

- Oxygen equipment
- Vacuum toilets
- Evacuation equipment



Components and systems repair

Pilot seats maintenance & repair shop has been set up in close cooperation with IPECO – a leading manufacturer of aircraft components. The shop has been certified for the of the A320 Family, B737NG, RRJ-95 components repair.

Under agreement with the OEM, S7 Technics provides aftermarket support for the pilot seats installed on RRJ-95 aircraft.



Aircraft painting

Over 50 projects successfully completed

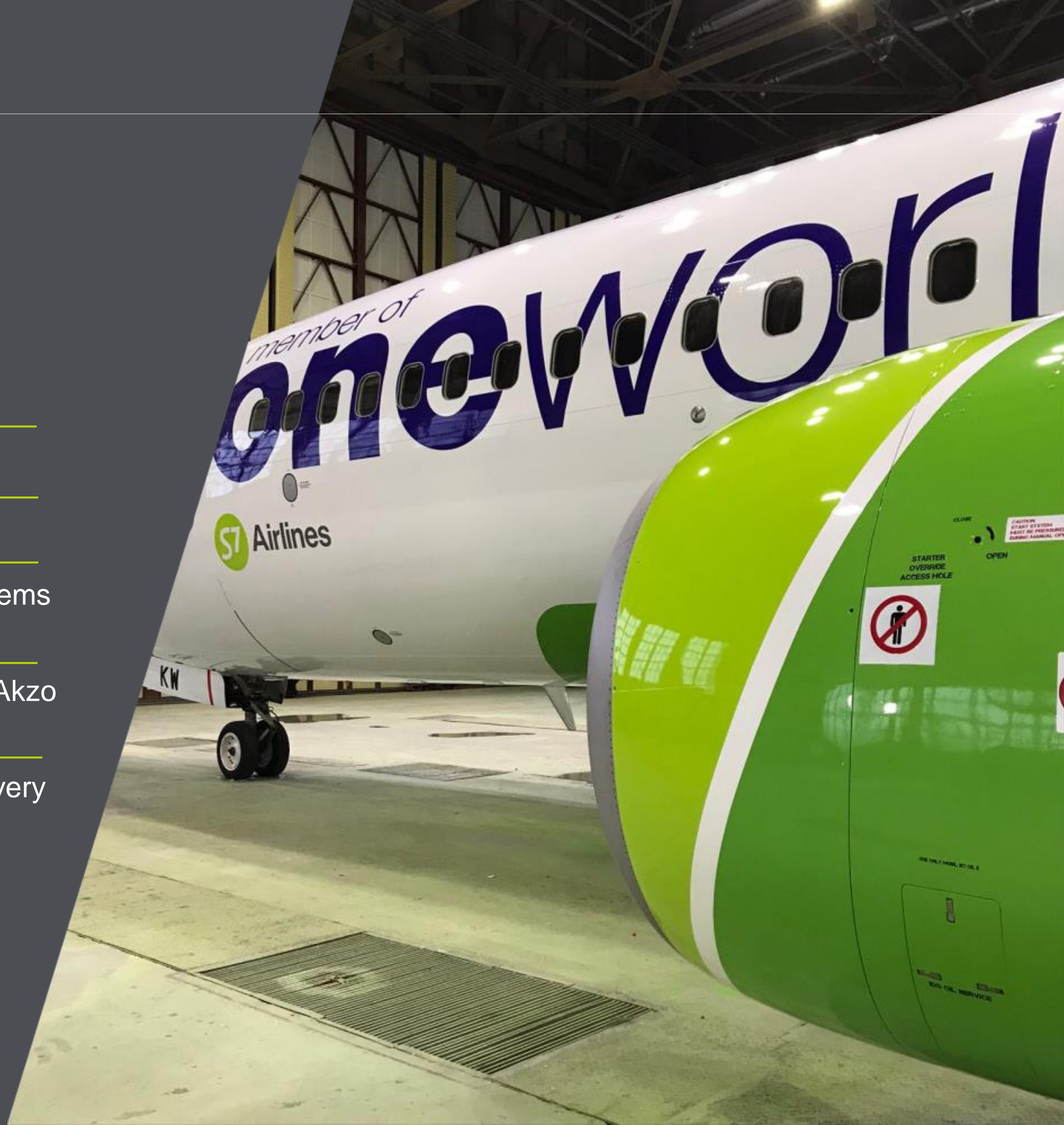
Aircraft painting hangar is located in Mineralnye Vody

Modern electrostatic painting equipment is provided by GRACO

Complete painting cycle for Base Coat / Clear Coat, Finish Coat systems is the first one of the kind in Russia & CIS

Certified painting materials manufactured and supplied by PPG and Akzo Nobel

Adjacent maintenance facilities allow to combine maintenance and livery application on an aircraft for reduced TAT.

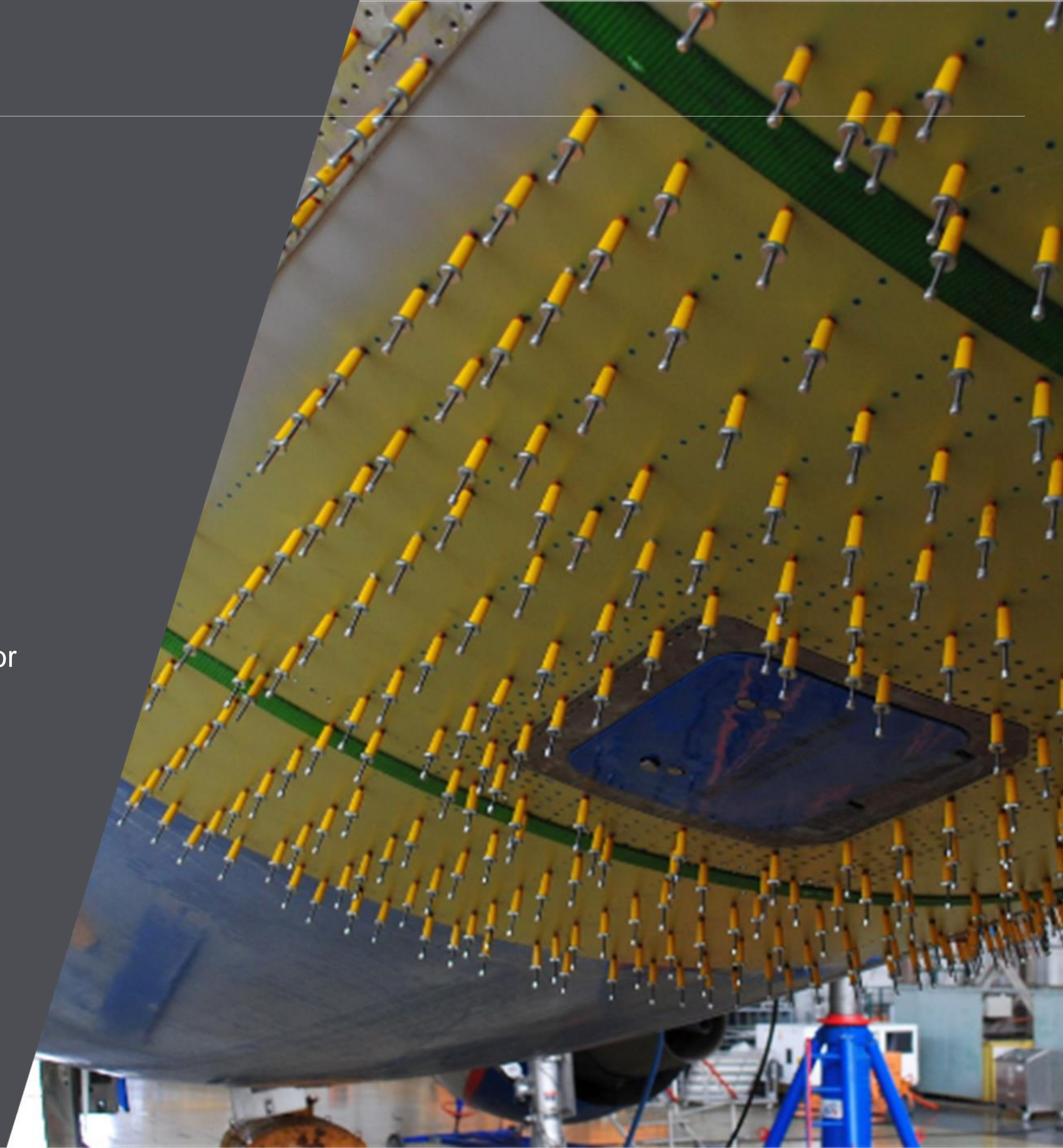




Structure repairs

S7 Technics is certified to make metal sheet and composite structure repairs. Structure Repair Shop personnel was trained by leading MRO training centers and received on-the-job training.

Painting of airframe surfaces including interior parts is performed in a specially equipped spray-painting and drying booth. This improves labor productivity, economic feasibility and efficient use of resources.



Non-destructive testing

S7 Technics' specialists use several types of non-destructive testing:

- Eddy current inspection
- Ultrasonic flow inspection
- Penetrant inspection
- Radiography inspection (X-Ray)
- Thermography inspection
- Magnetic particle inspection
- Visual inspection



CFM56 engines repair

Fan Disk replacement

HPC blades, vanes and bushings replacement and repair

LPT stg.1 NGV segments replacement

HPT NGV segments replacement

Combustor Chamber replacement

Bearing №4 replacement

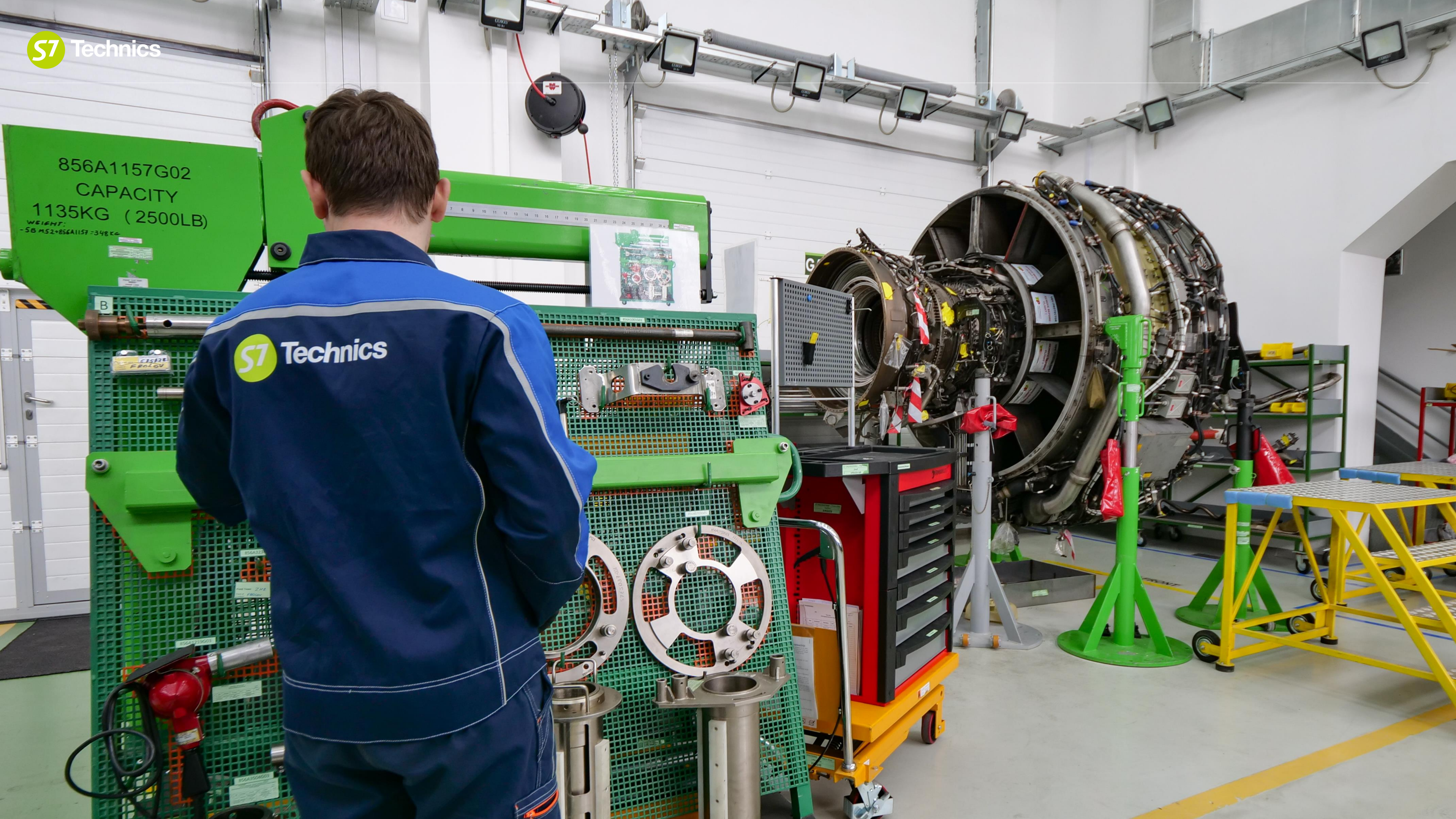
Engine modules replacement:
LPC booster, LPT major module,
AGB and TGB modules

Engine preservation for a period
from 30 up to 365 days and
preservation extension

Engine lease return (redelivery)
inspection and certification

Engines repair at Customer's Base.



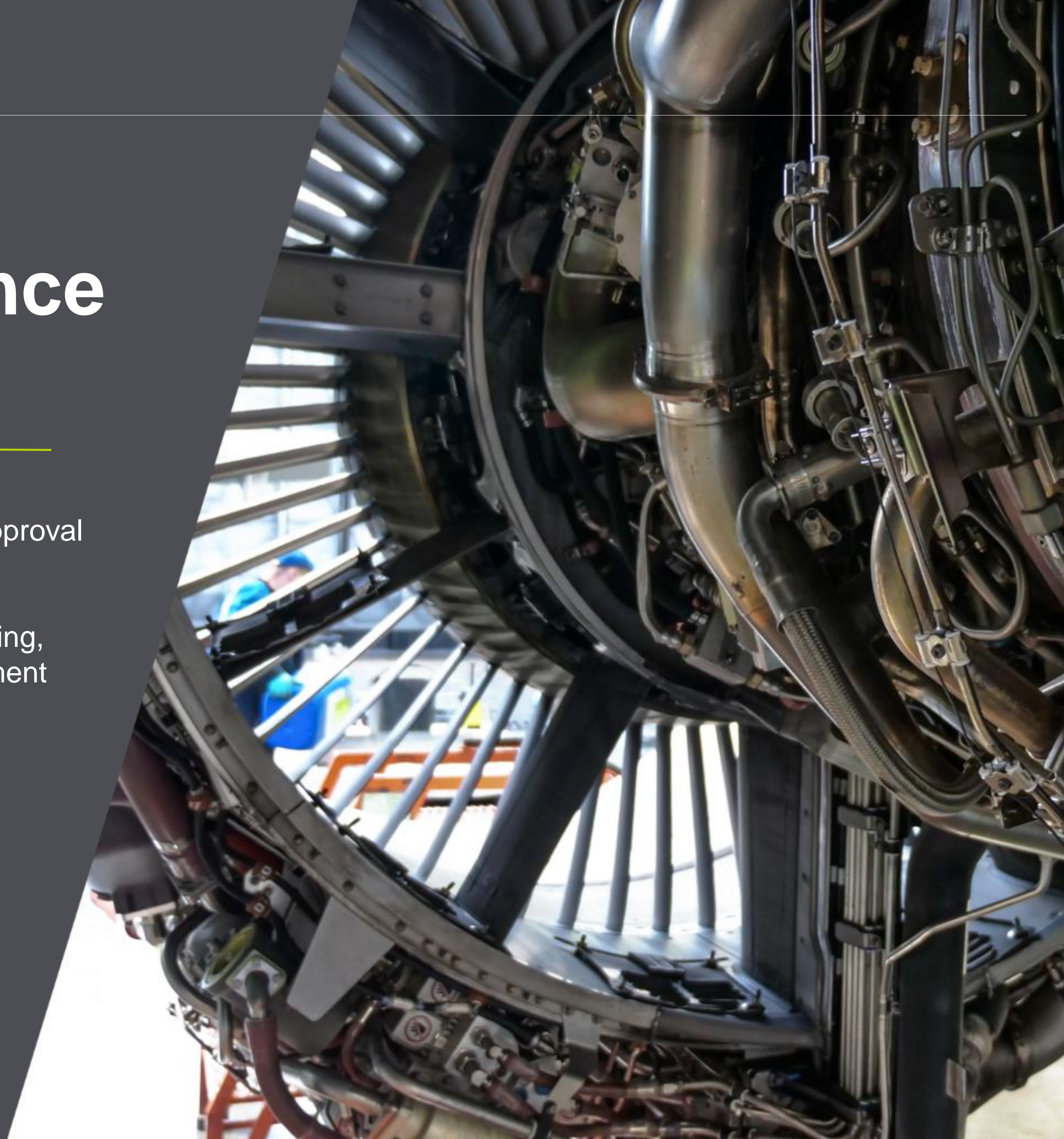


Engines Heavy Maintenance

CFM56 – 5B / 7B

Since 2019 S7 Technics is investing into the ENGINE / APU Overhaul facility at Sheremetyevo airport. CFM56-5B/7B capability regulatory approval is planned for mid-2022.

The on-site repair capability will include full engine disassembly, cleaning, inspection, including NDT, selected piece parts repairs, parts replacement and engine assembly



APU overhaul

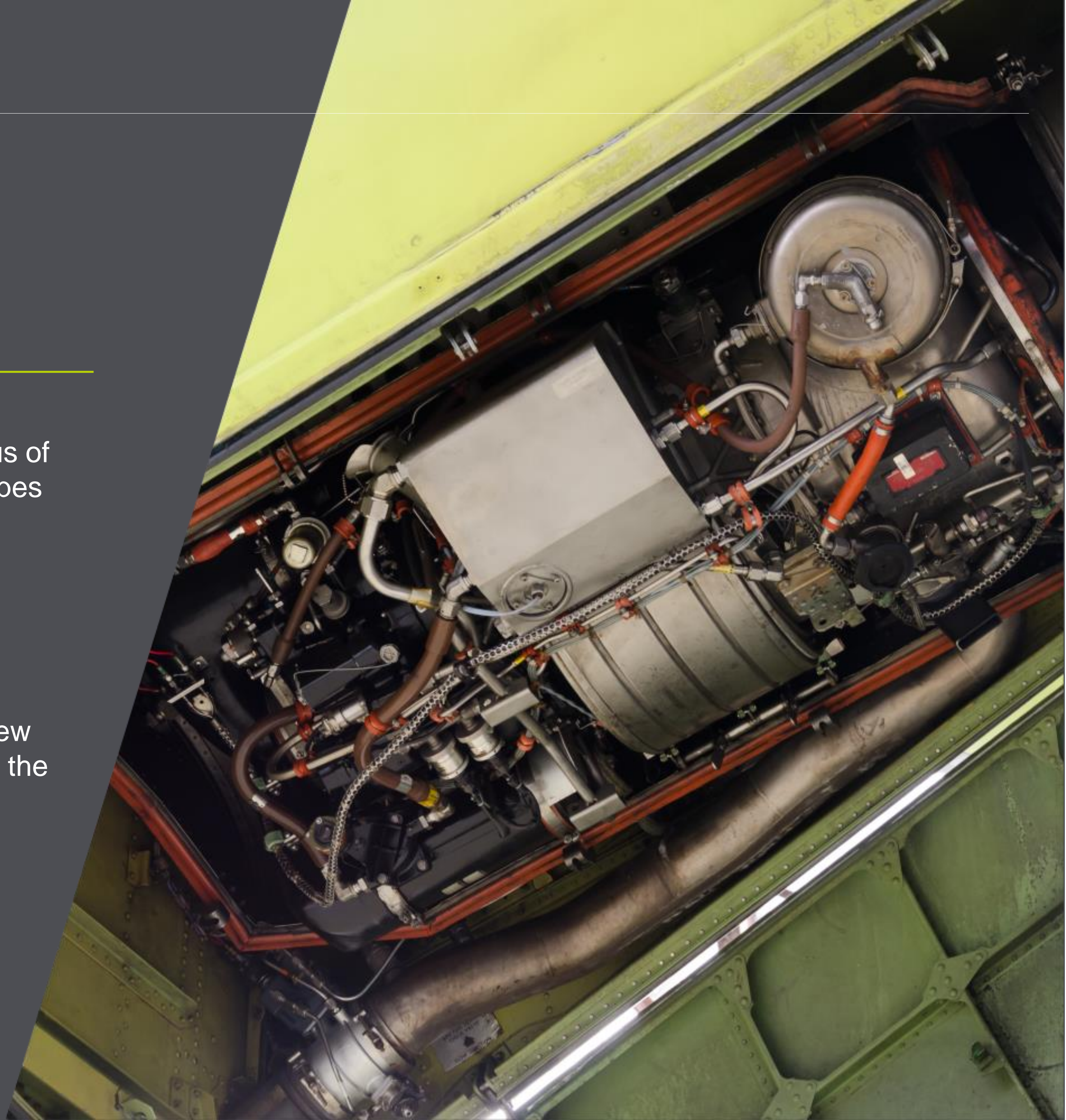
In February 2019, S7 Technics signed a license agreement with Honeywell. As part of the agreement, S7 Technics received the status of a Honeywell Channel partner for authorized repair of the following types of APUs:

- 131-9A
- 131-9B
- RE-220

These types are operated on aircraft B737 NG/MAX, A320 Family, RRJ-95. Currently, a joint project is being implemented to create a new production of S7 Technics for the overhaul of these types of APUs in the Moscow region at Sheremetyevo airport.

The APU repair facility, being established in the same building with CFM56 ENGINE Overhaul shop will share the same major lines equipment with the engine lines optimizing the total operational cost

Regulatory approval is expected for late 2021.



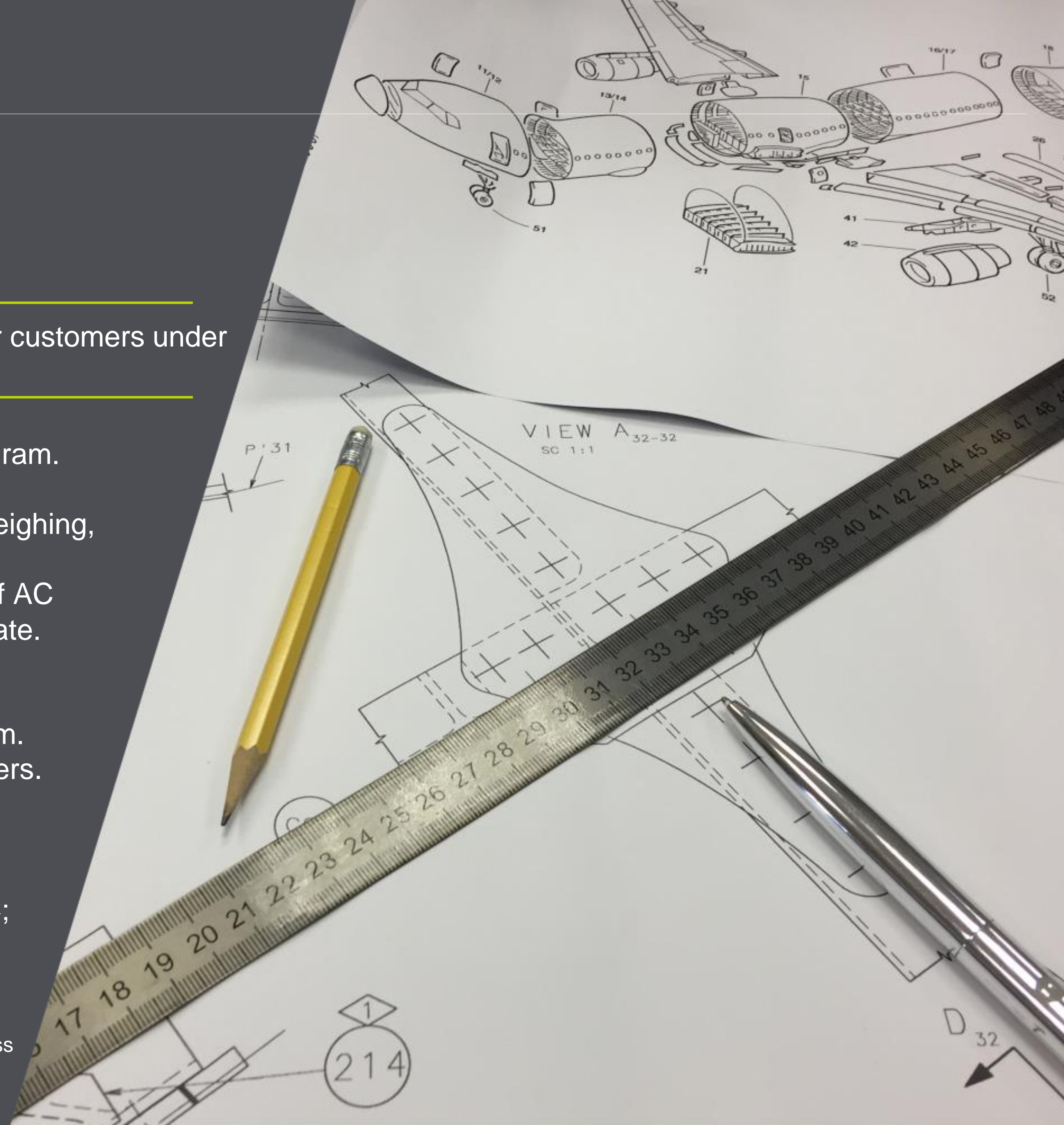
Engineering services

Part –145, CAMO, delivery / redelivery support

S7 Technics has vast expertise and provides engineering support for customers under OTAR Part 39 Option 2 Subpart E (CAMO Approval)

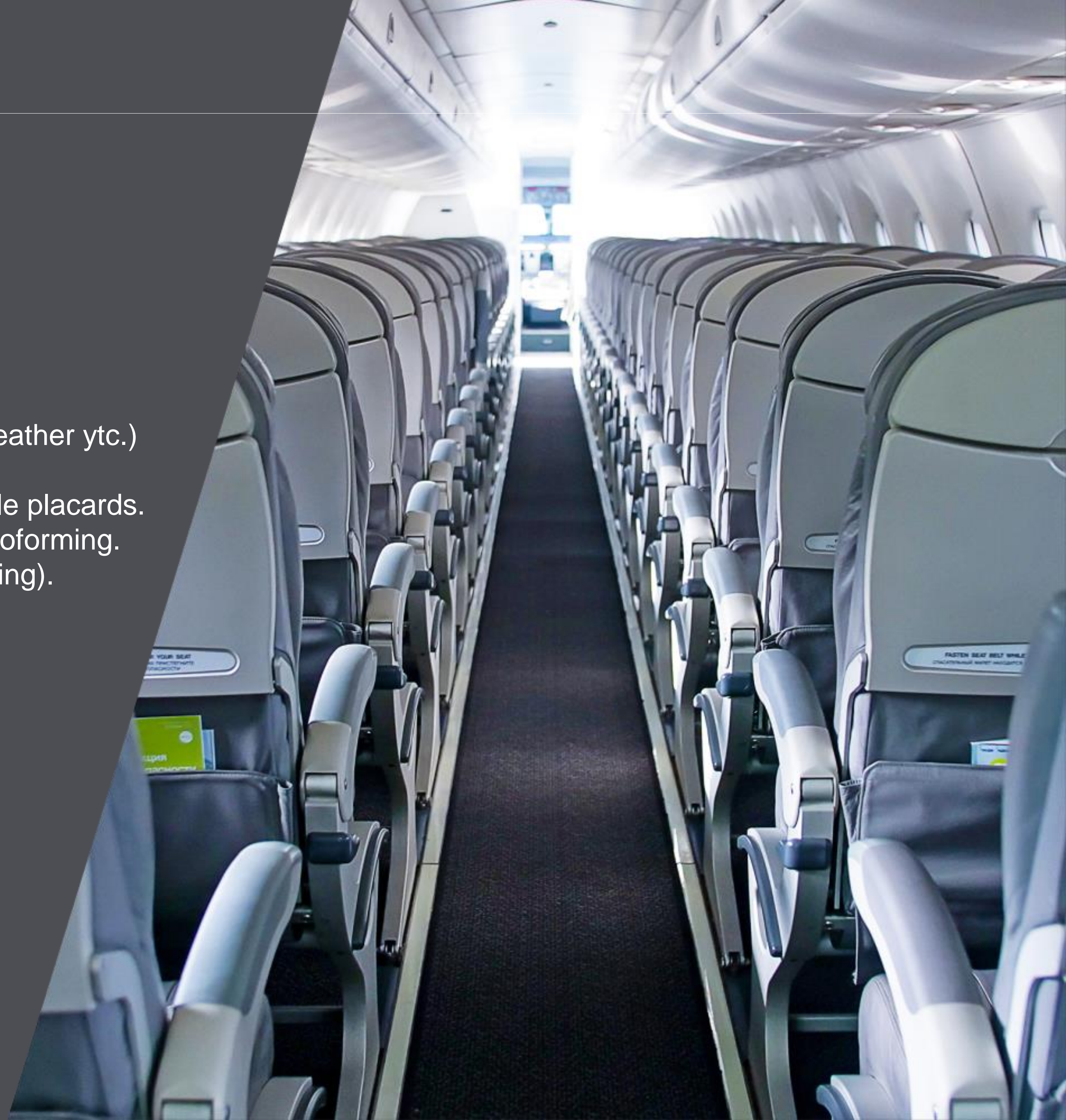
- Development & support of the fleet maintenance and reliability program.
- Development & support of a minimum equipment list.
- Development & implementation of special procedures: test flight, weighing, etc.
- Consulting on delivery of AC and entering in operation, the return of AC to lessor, assistance in obtaining / renewing the airworthiness certificate.
- Development of job cards and other technical information.
- Engineering support of the AC maintenance processes.
- Organization and implementation of the AC parking\storage program.
- Solution of technical problems with AC and component manufacturers.
- Processing and analysis of flight data information.
- Continuing the airworthiness of the aircraft fleet :
 - planning of the AC maintenance;
 - maintenance, accounting and storage of technical records of the AC;
 - engine condition and performance parameters monitoring;
 - maintaining airworthiness statuses*.

* - statuses of hard time component, on condition \ condition monitoring components, airworthiness directive, service bulletins, modification and STC, structure repair, last done next due, etc.



Cabin Interior Sewing & Production

- Production of pilot and passenger seat's cover (fabric, leather, e-leather ytc.)
- Production of curtains, carpets, bags, divider curtain etc.
- Production of exterior and interior placards, incl. stencils and Braille placards.
- Production of plastic parts by injection molding and vacuum thermoforming.
- Production of metal parts (brackets, suitcase, literature pocket spring).
- Production of seat cushions
- Production of lavatory floor pan.



Part 21 J & G

S7 Technics specialists carry out a comprehensive modification of the AC interiors, from the development of design documentation to the practical implementation of the entire system.

Design (engineering) of AC components - EASA Part 21J.

This certificate authorizes the development, approval and release of design documentation for minor Modifications and Minor Repairs (Minor Changes and Minor Repairs), in relation to the passenger cabin, cargo compartments, external and internal structure of the aircraft

Testing Laboratory for determining the fire resistance of aircraft interior materials.

Laboratory specialists conduct tests to determine the fire resistance of AC interior materials in accordance with the requirements of AP-25, CS-25, FAR-25 and DOT/FAA/AR-00/12.

Production of AT – EASA Part 21G components.

The aircraft components production shop operates on the basis of the EASA Part 21G certificate, which allows the production of components with EASA Form 1.



Delivery / Redelivery

S7 Technics supports 10 AC Redelivery projects per year

Scope of services includes:

- AD / SB Status update and correction
- MPD Due List update and correction
- OCCM / HT Components status update and correction
- Redelivery WS optimization to meet Redelivery conditions
- Complete structure repairs assessment, status update and findings rectification
- Structure repairs
- Engine management and repairs prior to Return
- Preliminary cabin inspection, parts supply and complete cabin refurbishment under EASA Part 21 J & G standards
- Aircraft complete repainting
- Communications with aircraft manufacturer, aviation authorities
- Qualified negotiation between Lessor and Lessee, representing Lessee interests
- Presenting aircraft and records to the next Lessee

NOTE: The scope of work on the AC delivery is very similar, but more inclined on the checking of documents and physical condition of AC



Service for Lessors

S7 Technics provides engineering and consulting services.

Audit of technical records in accordance with the requirements of the lease agreement and the aviation authorities, verification of all airworthiness data and preparation of comments for the aircraft operator:

- Statuses of airworthiness directives and service bulletins for aircraft, engines, APUs, and components.
- Statuses of modifications and structural repairs of the aircraft structure.
- Airframe and component utilization
- Performing all routine maintenance items.
- AC configurations, hard time component and life limited parts status.
- Documentation of the operator (maintenance program, ETOPS manual, minimum equipment list, etc.).
- Traceability of all life limited parts.
- Maintaining the software status of the aircraft.
- Load changes (ELA) as a result of performed modifications.
- Monitoring of aircraft center of gravity and weight.
- Preparation of Burn Certificates for cabin equipment.



Service for Lessors

S7 Technics provides engineering and consulting services:

Representation of the lessor in communications with the AC operator, aviation authorities and the manufacturer of AC and components.

Physical inspection of the AC for compliance with the lease agreement, as well as the requirements of the aviation authorities:

- Verification of damages and repairs for compliance with the manufacture's manuals, lease agreement and the requirements of the aviation authorities.
- Validation and verification of the installed components.
- Inspection of interior elements for compliance with the manufacture's manuals, lease agreement and the requirements of the aviation authorities.
- Inspection of all markings for compliance with the manufacture's manuals, lease agreement and the requirements of the aviation authorities.



Aviation training center. Part 147



Airnav
Airbus Training
320

TRAIN 2015 S8E
A320

BE SCOPE

CAUTION: MISCABLE TAGGED BE SCOPE. BE AWARE THAT ONLY AVIATION ELECTRICAL TOPICS SHOULD BE LEARNED FOR A TC COURSE.

GENERAL

The aircraft is equipped with two multi-channel Fuel Level Sensing Control Units (FLSCU) and a third one, if the Additional Center Tank (ACT) is installed. They provide high fuel level sensing, low fuel level sensing, full fuel level sensing, underfull fuel level sensing, overflow level and temperature sensing. Fuel level and temperature sensors feed signals to the multi-channel amplifiers. The FLSCU detect and amplify the signals and trigger switching functions in the appropriate circuits.

HIGH LEVEL

The FLSCUs use signal conditioning to independently monitor the high level sensors. When the high level sensor in the fuel tank becomes wet, the FLSCUs will give a wet signal to close the related relief valve - cause the related HI LVL light to come on at the relief panel.

LOW LEVEL

A signal is given to the time delay relays when a center tank LOW LVL sensor becomes dry. When the LOW LVL sensor has been dry for five minutes, the related center tank pump is latched off. Low level sensors at a fuel level of 750 Kg (1653 lbs) in each wing tank are used for opening of the Intersect Transfer Valves simultaneously in both wing tanks when exposed to air for the first time.

FULL LEVEL

A center tank pump will stop when the two FULL LVL sensors in the related wing tank are wet. The pump will not operate again until at least one UNDERFULL LVL sensor in the related wing tank is dry. The related center tank LOW LVL sensor must also be wet for the pump to restart.

UNDERFULL LEVEL

The full and underfull level sensors are installed in the wing tanks. The FLSCU use the full and underfull level sensor data to control the automatic operation of the center tank fuel pumps. This controls the wing tank fuel level. Data from the full level sensor is used to make sure the fuel level in the wing tank does not increase above the full mark. Data from the underfull level sensor is used to make sure that the fuel level in the wing tank does not decrease to less than 500 kg (1100 lb) below the full mark (with fuel in the center tank).

OVERFLOW LEVEL

If the center tank pump fails to stop with under full level reached, the overflow sensor sends a signal, via the FLSCU, to the Engine Interface Unit (EIU) to close the Fuel Return Valve (FRV).

TEMPERATURE SENSOR

The fuel temperature sensor in the wing tank inner cell sends a high fuel signal temperature signal 52.5°C (126.5°F). The fuel temperature sensor in the wing tank outer cell sends a high fuel signal temperature signal 55°C (131.0°F).

Handwritten notes on a whiteboard, including diagrams and text related to fuel level sensing.

Aviation training center. EASA Part 147

S7 Technics Training Center (EASA Part 147, FAR-289) provides training for aircraft maintenance engineers, both in-house (Moscow DME) and its clients' facilities.

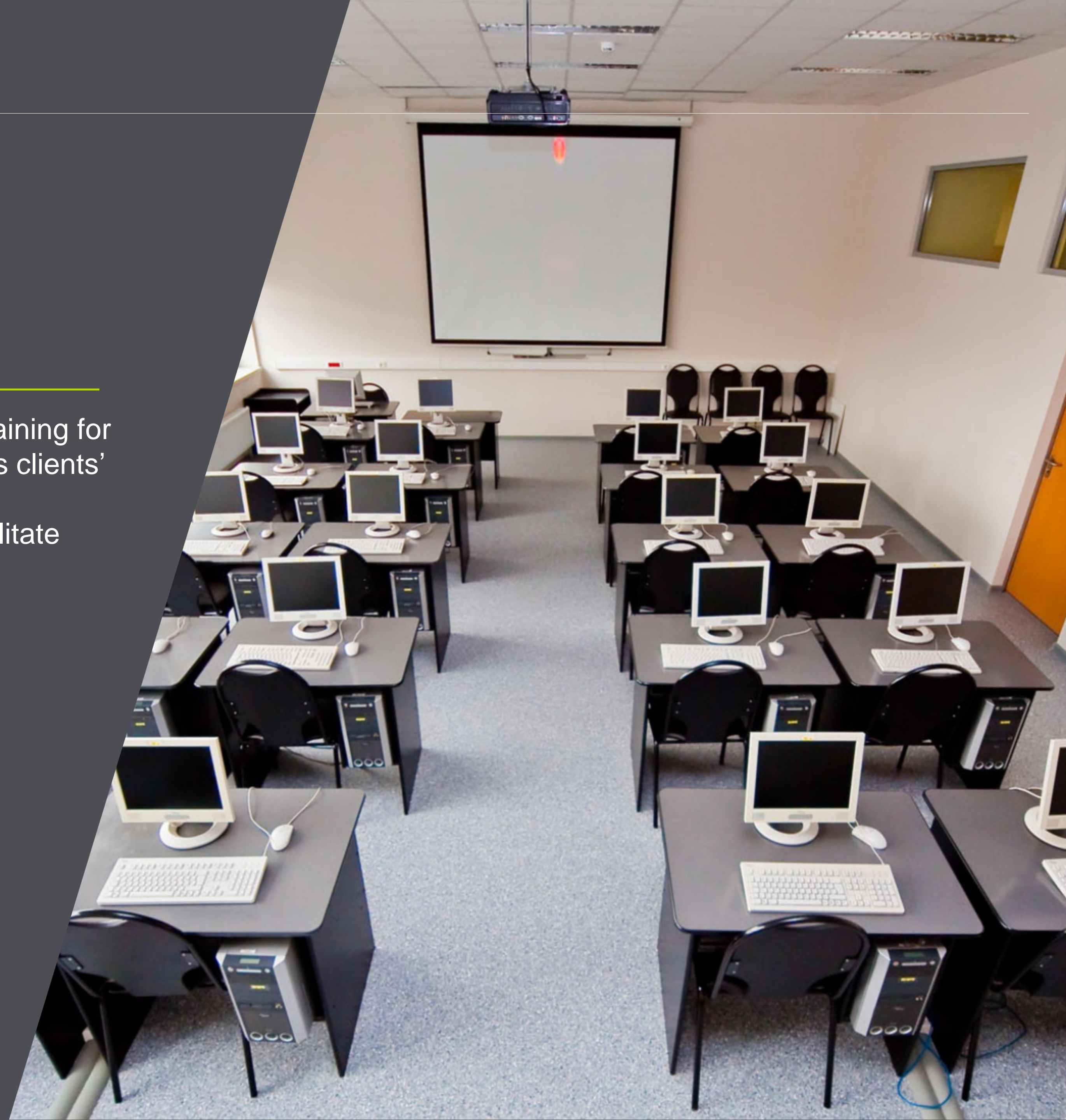
The courses are supported by modern software and hardware to facilitate comprehension and simplify access to training materials.

Ratings:

B1.1, B2, B1.1+B2, C

Supported aircraft types:

- Airbus A318/A319/A320/A320/A321 (All engines)
- Boeing 737-300/400/500
- Boeing 737-600/700/800/900
- Boeing 737-7/8/9
- Boeing 757-200/300 (All engines)
- Boeing 767-200/300/400 (All engines)
- Embraer ERJ-170 Series



Cooperation Projects with leading OEM's & MRO's



SAFRAN Group a world leading manufacturer of hi-tech AC systems & equipment, and a tier-1 supplier in Aerospace industry. Aftermarket support is a top priority of the group.

S7 Technics is the only MRO in Russia & CIS fully authorized by SAFRAN to support water & waste, oxygen & evacuation equipment on the aftermarket.



Limco Airepair is a subsidiary of TAT Technologies Ltd. which specializes in providing heat exchanger units repair services. All operations are approved by the Federal Aviation Administration.

Heat exchangers maintenance service offered by joint venture **TAT ENGINEERING** ranges from minor repairs to complete overhauls.

Service is available at **S7 Technics** Novosibirsk facility.



SR Technics – one of the world's leading MRO providers. Engine maintenance shop was set up in cooperation between the two MROs.

Maintenance of **CFM56-3/5B/7B** engines during AC heavy check to reduce turn-around-time (TAT) for Russia- and CIS-based clients.

Service is available at **S7 Technics** facilities in Moscow DME, and Mineralnye Vody.



Honeywell - Fortune 100 technology company that delivers industry specific solutions that include aerospace products and services.

S7 Technics and **Honeywell** are contracted to launch a new APU repair facility in the next two years. It will be the first one of its kind in Russia and CIS, supporting Honeywell auxiliary power units (APUs) 131-9A/B, RE-220 installed in the most popular aircraft types: Airbus A320, Boeing 737 and RRJ-95 families.

S7 Technics domestic clients



S7 Technics international clients



Thank you for your attention!