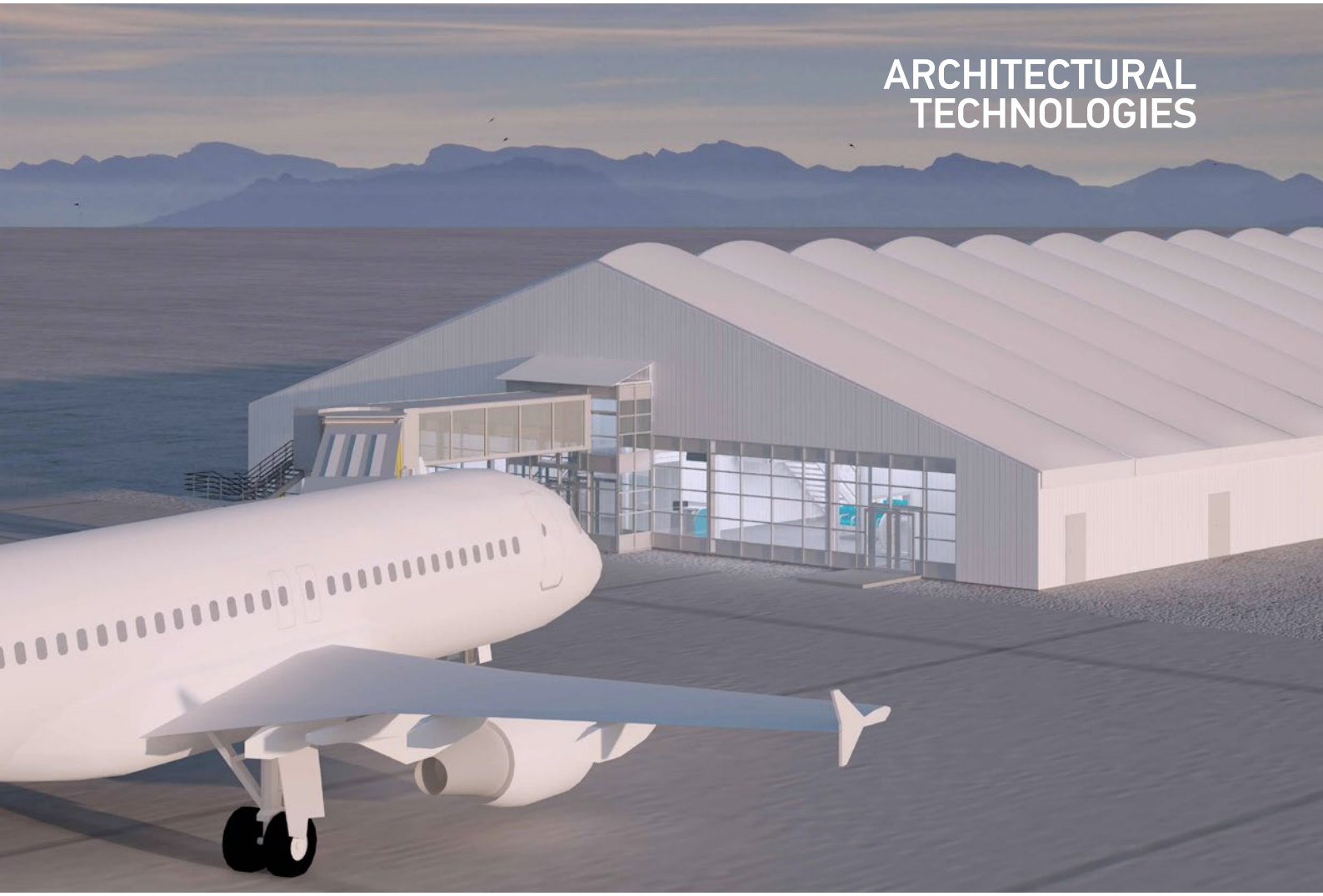


RÖDER_AVIA

PREFABRICATED READY
TO OPERATE BUILDINGS

RÖDER

Prefabricated temporary RÖDER buildings

- Fully ready to operate
- Minimal assembly and installation time
- Standard dimensions – comfortable transportation
- Durable (frame – over 30 years, tent – over 10 years)
- Equipped with all engineering systems
- Integrate with permanent buildings
- Supplemented by modular buildings and administrative and amenity buildings
- Convenient for remote and hard-to-reach regions

Application

- Passenger and baggage terminals of DAL/IAL
- VIP-terminals and concourses
- DAL/IAL checkpoints
- Hangars and maintenance and repair shelters for aircrafts
- Cargo-terminals, warehouse complexes
- Commercial areas, administrative buildings
- Emergency rescue stations, checkpoints, equipment shelters, garages
- Sanitary modules

◀ Hangar for A320/B737 aircraft types. Dimensions 50x53x9 (18 in the ridge) m. Three-section lifting gate. Vladivostok, 2020

RÖDER STRUCTURES

Are viable in following cases

- quick enhancement of terminal's throughput
- organization of additional checkpoints
- as seasonal solution
- modernization of remote and northern regions' infrastructure
- installation of buildings in areas with perpetually frozen soil
- urgent aircraft maintenance and repair
- quick and cheap alternative for permanent buildings

Advantages

Short installation time
two-three months on the prepared site

No need for permits
considered as temporary structures

Stage-by-stage implementation
may scale up gradually

Transformation for different purposes
modularity of the structure, may be used in combination with permanent buildings

Full cycle designing
documentation for all sections

Strength
wind and snow loads, seismic resistance and fire safety

Durability and corrosion resistance
over 30 years of service life for the frame
over 10 years of service life for the roofing

Flexible terms of agreement
lease or sale, combination of both

«Inheritance» of constructions
95 percent of constructions may be used again

Results

- Infrastructure development
- Quick adaptation
- Efficiency
- Environmental safety
- Cost-effective alternative for permanent building

RÖDER SOLUTION FAMILY

TERMINALS

DAL/IAL passenger terminal for B737, A320, MC-21, SSJ-100 aircraft types

DAL medium passenger terminal for DHC-8 Q300/Q400, Il-114 aircraft types

Local DAL passenger terminal for DHC-6, L-410 aircraft types

Cargo-terminals

Regional logistic centers

Waiting halls, accumulation zones, business lounges

Baggage terminals

Sheds, annex structures, shelters

Commercial areas

Maintenance areas

Service buildings

AIRCRAFT HANGARS

Shelter hangar for B737, A320, MC-21 aircraft types 50x53 m

Shelter hangar for DHC-8 Q400 aircraft types 36x40 m

Shelter hangar for DHC-6, L-410 aircraft types 25x30 m

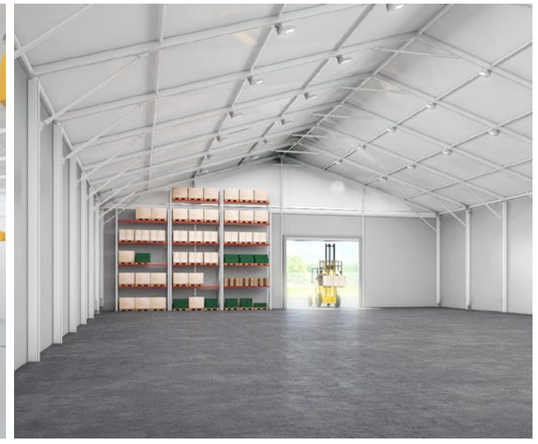
Mi-8 helicopter shelters 30x30 m

HANGARS AND SHELTERS FOR REPAIR AND MAINTENANCE

Frame-tent hangars for repair and maintenance

Temporary repair and maintenance shelters

ADDITIONAL BUILDINGS



Warehouses and general service hangars

Emergency rescue services

Light aviation air traffic control stations

Helicopter site

Light aviation training module (three modules)

Checkpoints / police / runway points

Modular disinfection cabin

Modules for different purposes (WC, storage chambers, technical modules, kennel modules)

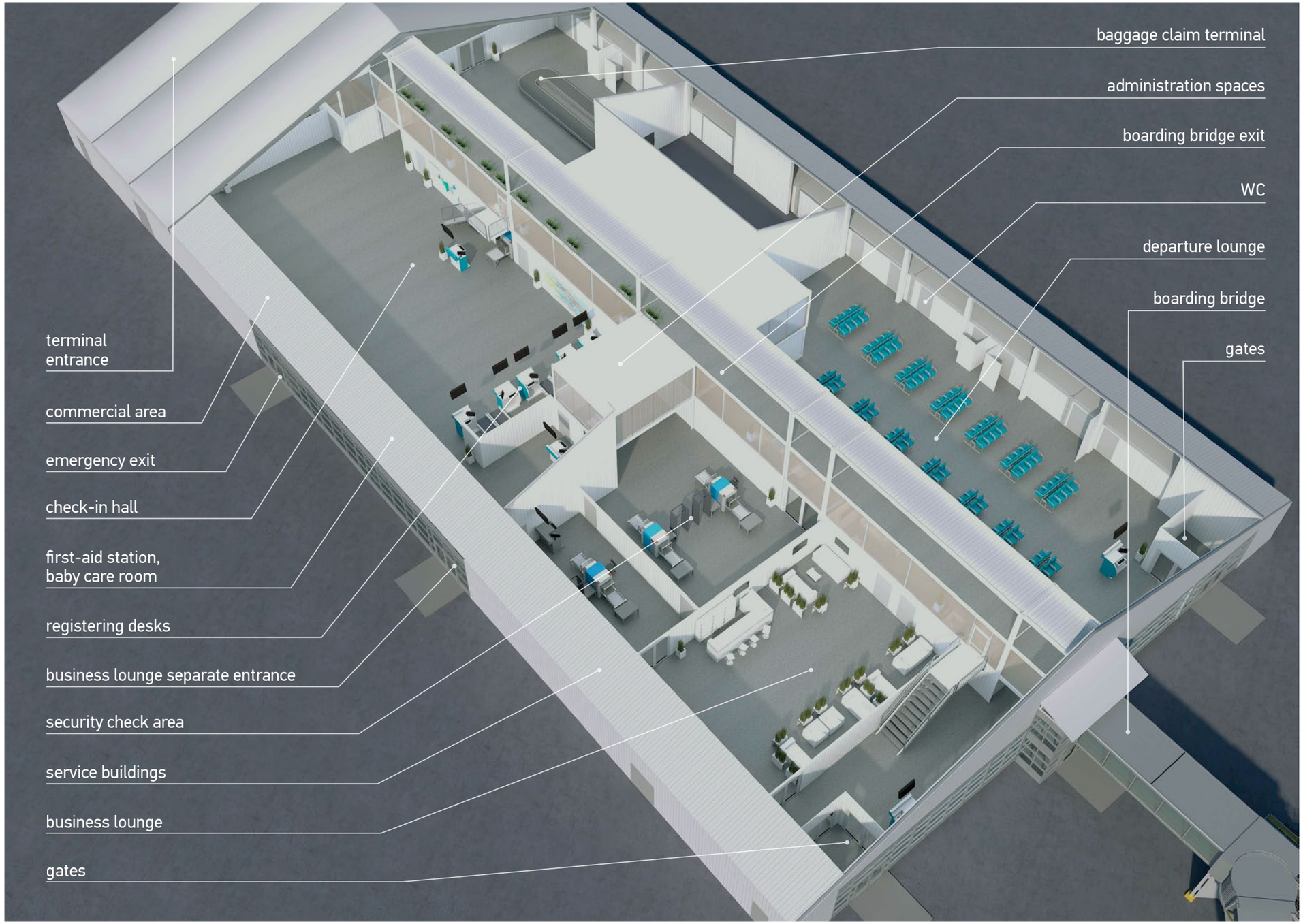
PASSENGER TERMINALS

Terminal room may be zoned with block-modular building or with sandwich panel partition walls, depending on the size and requirements of the customer.

- Check-in hall
- VIP-lounge
- Security check area
- Assembly point
- Baggage claim terminal
- Departure lounge
- First-aid station
- Baby care room
- Commercial areas
- Service and technical premises
- Sanitary rooms

Infrastructure facilities based on quickly erectable structures:

- Accumulation zones and concourses, business lounges
- Baggage terminals
- Commercial areas
- Cargo-terminals, logistic centers
- Regional logistic points



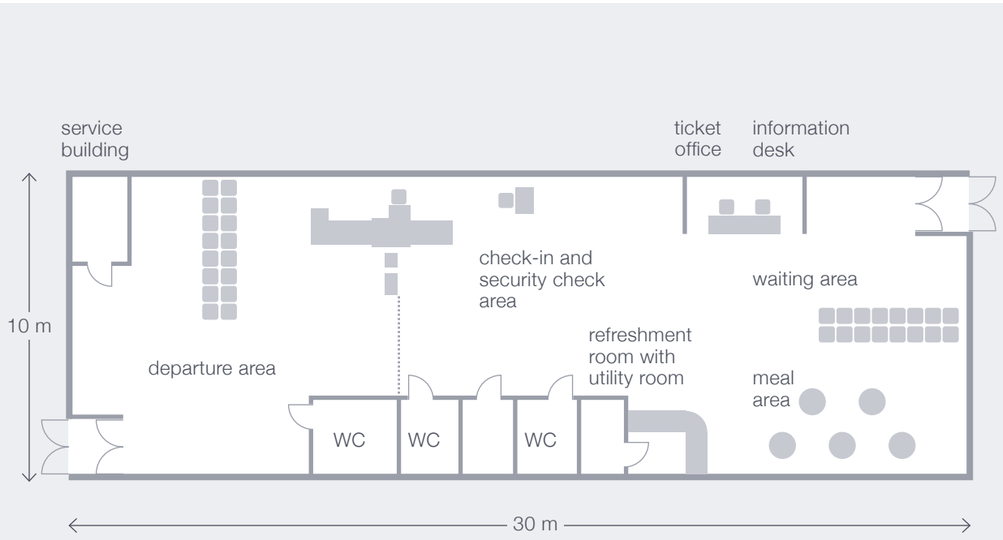
SERVICE-PASSENGER BUILDING FOR LANDING SITES

Development of regional airlines in hard-to-reach and underpopulated regions

Aircraft types:
L-410, Mi-8, Ansat, Baikal, DHC-6 Twin Otter

10×30 m
dimensions

20-30 pass/h
throughput capacity

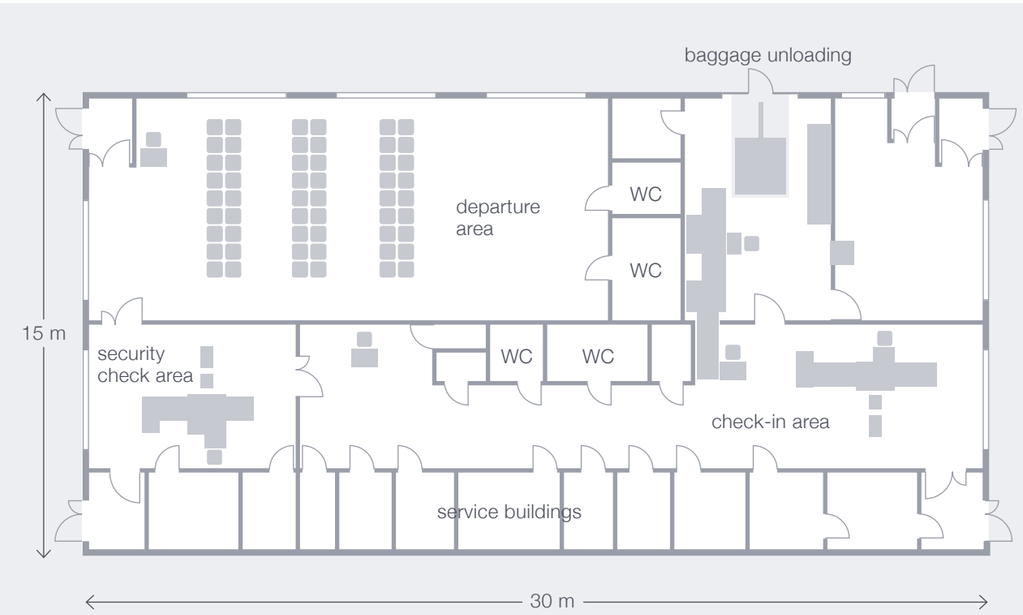


SERVICE-PASSENGER BUILDING FOR REGIONAL CENTERS AIRPORTS

Aircraft types:
Il-114, L-610, Dash 8 Q400

15×30 m
dimensions

50-70 pass/h
throughput capacity

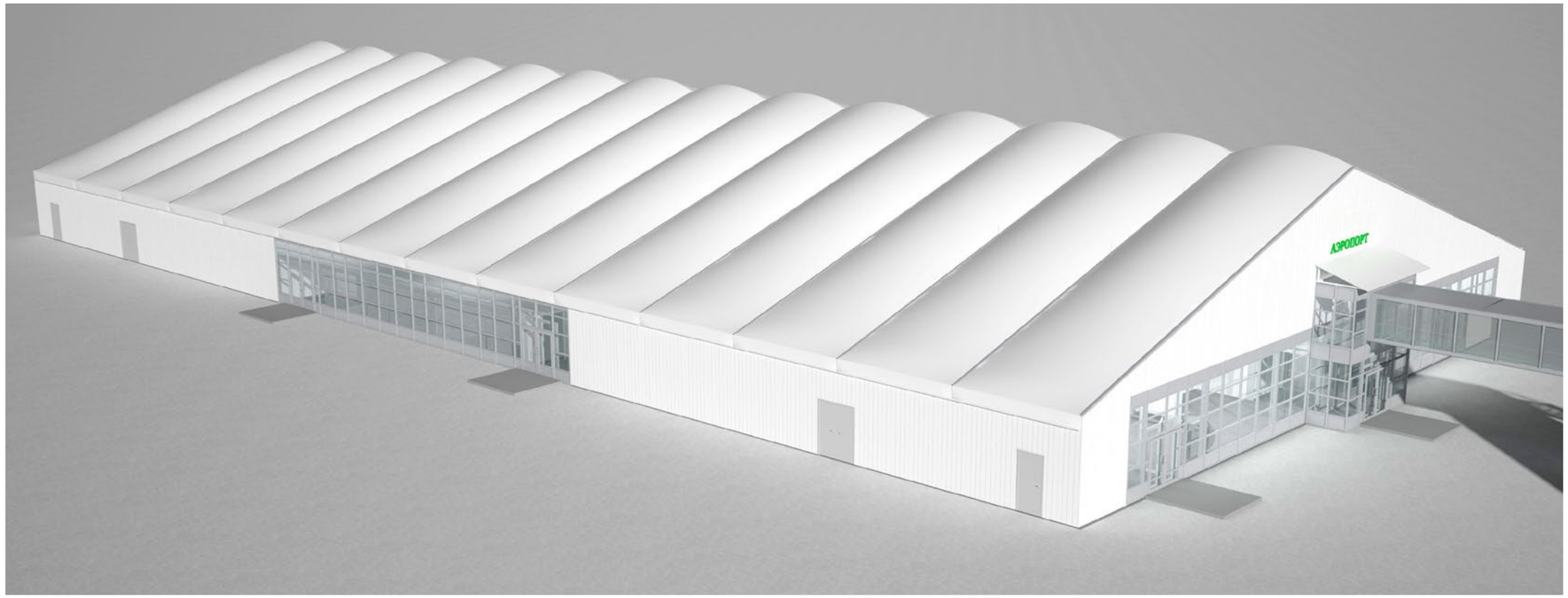


DAL PASSENGER TERMINAL FOR REGIONAL AIRPORTS

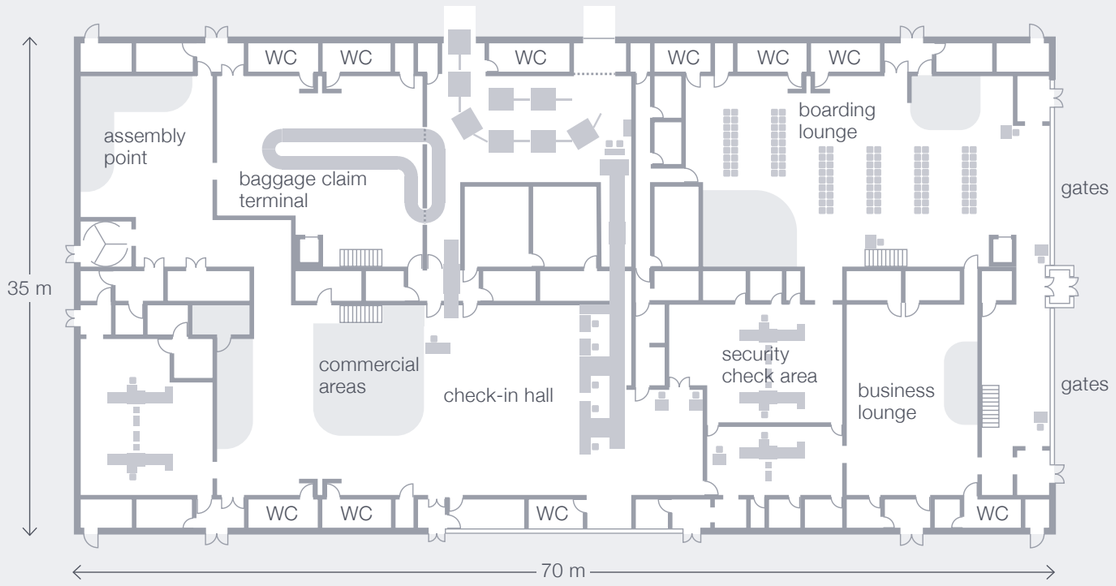
Aircraft types:
MC-21, SSJ-100, A320, A321, B737, B767, B787-8

35×70 m
dimensions

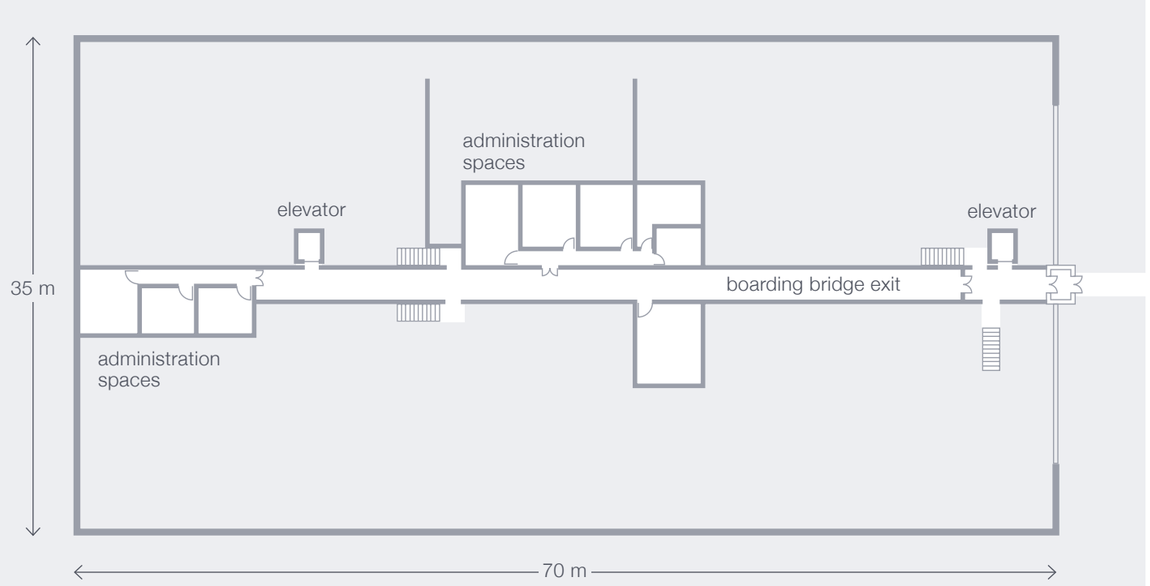
200–250 pass/h
throughput capacity



Lower level



Upper level



INTERNATIONAL TERMINAL OF KALUGA AIRPORT

Sandwich panel walls, panoramic glazed facade, silver-painted double PVC thermal roofing, drainages, ramps, stairways, glass-aluminum doors, canopies.

In total — 60 premises designed and built for 11 air terminal departments, including two reinforced premises for State Defense Committee.

The building is equipped with security check equipment, fire safety and alert systems, as well as standalone gas boiler house.

- Check-in hall
- Departure lounge
- Arrivals area
- Baggage terminal
- Sanitary rooms
- 5 check-in desks
- Enquiry desk
- Pharmacy

Airport State Border Inspection Post

Contain all State Defense Committee services

Location:
Kaluga, Grabtsevo Airport

Dimensions:
40x60 m

Throughput capacity:
150-200 pass/h in two flows

Construction purposes:
erection and permanent operational use of new IAL terminal

Commissioning date:
May 2018

2400 m²
area

4,2 m
wall height

H-LINE
structure type

IAL TERMINAL CHELYABINSK

2500 m² area of structures

6,2 м wall height

H-LINE structure type

Location:
Chelyabinsk, Balandino Airport

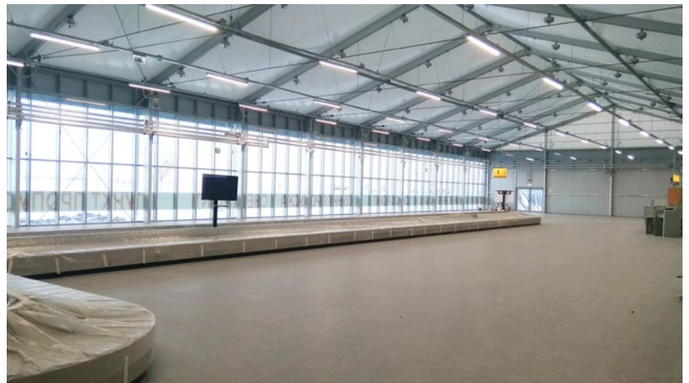
Dimensions:
10x30, 10x20 and 20x80 m

Throughput capacity:
400 pass/h

Construction purposes:
additional IAL terminal as part of air terminal reconstruction, permanent operational use

Commissioning date:
2020

Double thermal roofing, sandwich panel walls combined with panoramic glazed facades, gates, doors, ramps and stairways, canopies, drainages. Engineering systems, lighting, climatic equipment, security and fire alarm are implemented in the constructions. We designed and installed three IAL pavilion terminals with functional partition at baggage claim and handling area, and border control waiting area.



Natural illumination is very important for these structures, thus complete panoramic facade glazing, combined with sandwich panel walls, are implemented.

Structures are connected with the main airport building.

TEMPORARY ADDITIONAL IAL RUNWAY TERMINAL KAZAN

Location:
Kazan

Dimensions:
15x45 m

Throughput capacity:
up to 320 pass/h

Construction purposes:
terminal to increase throughput during 2018 Football World Cup

Commissioning date:
2017

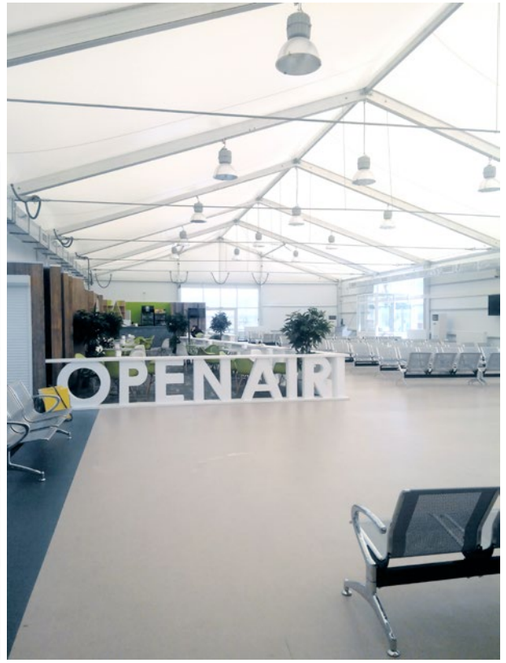
Double thermal roofing, aluminum and glass wall panels, aluminum-glass doors, engineering systems, lighting, climatic equipment, security and fire alarms.

Up to 16 mobile passport control stations may be used simultaneously. Terminal is connected with the main airport building.

4 m wall height

SOLUTION structure type

BAGGAGE TERMINAL AND VIP LOUNGE PERM



Location:
Perm, Bolshoye Savino

Dimensions:
15x30 m

Installation time:
2-4 weeks

Construction purposes:
new baggage terminal for domestic airlines, increasing passenger comfort during the construction of the main terminal

VIP-lounge commissioning:
November 2013

Baggage terminal commissioning:
July 2015, in operational use to this day

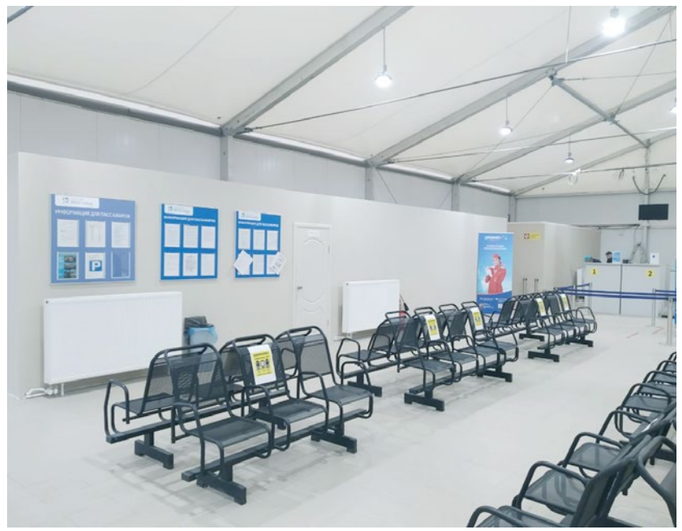
Double thermal roofing, sandwich panel walls with glass inserts, engineering systems, lighting, climatic equipment, security and fire alarms, water supply and drainage.

4,2 m
wall height

H-LINE
structure type

DAL DEPARTURE AREA ACCUMULATION ZONE YAROSLAVL

After seven years of operational use the structure was dismantled in Perm, assembled and re-equipped for Tunoshna Airport requirements as a departure area accumulation zone and passenger check-in hall



Location:
Yaroslavl, Tunoshna

Dimensions:
15x30 m

Installation time:
2-4 weeks

Construction purposes:
quick expansion of terminal area during reconstruction of the main airport building

Commissioning date:
September 2020

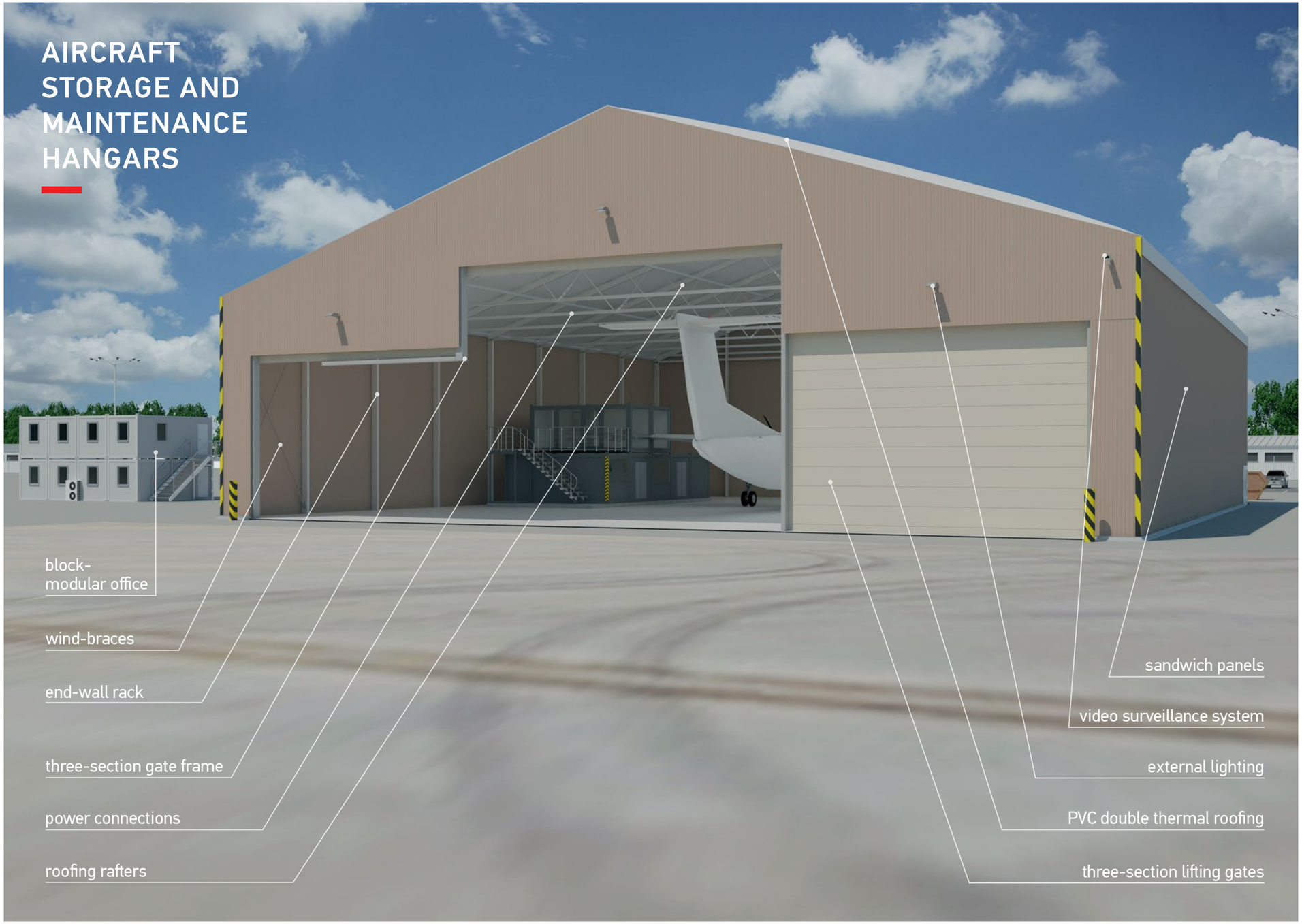
Double thermal roofing, sandwich panel walls with glass inserts, engineering systems, lighting, climatic equipment, security and fire alarms, water supply and drainage.

VIP-lounge structure from Bolshoye Savino Airport in Perm was dismantled and transported to a new location in Yaroslavl in 2020, with all main elements, including glass panels.

4,2 m
wall height

H-LINE
structure type

AIRCRAFT STORAGE AND MAINTENANCE HANGARS



Quickly erectable frame tent structure on complex profiled aluminum frame with double thermal roofing — mobile building with full set of engineering systems.

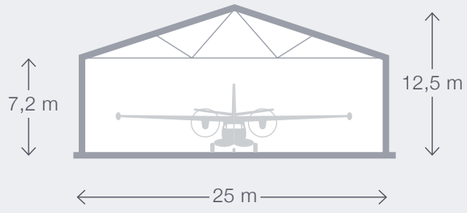
Aircraft storage and maintenance hangar may additionally contain:
- garage for service vehicles
- workshop
- locker room
- classrooms
- recreation rooms
- dining room
- bathroom
- shower
- technical and administrative premises

Required equipment, purpose and area of premises are planned during preparation of designing documentation.

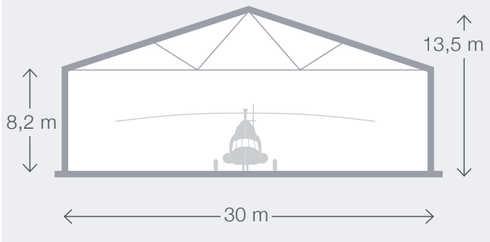
TYPICAL AIRCRAFT SHELTER HANGARS FOR

LOCAL AIRLINES

Aircraft types:
L-410, Mi-8, Ansat, Baikal, DHC-6 Twin Otter



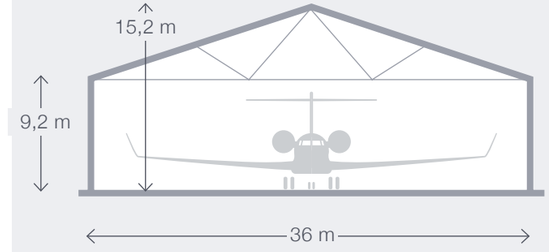
750 m² area
25×30 m dimensions
7,2 m wall height



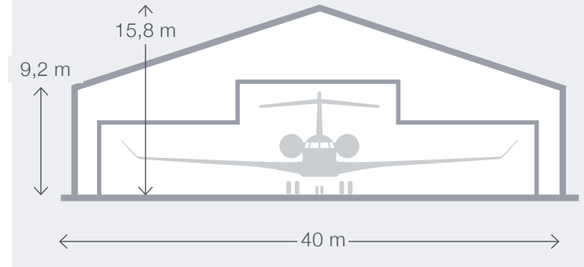
900 m² area
30×30 m dimensions
8,2 m wall height

REGIONAL AIRLINES

Aircraft types:
Il-114, L-610, Dash 8 Q400



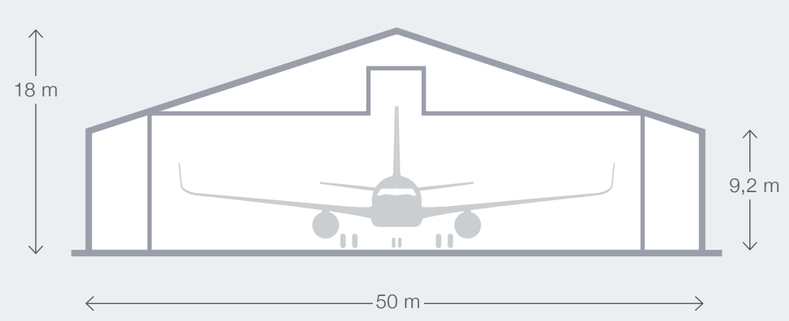
1440 m² area
36×40 m dimensions
9,2 m wall height



1600 m² area
40×40 m dimensions
9,2 m wall height

MIDRANGE AIRCRAFT

Aircraft types:
MC-21, SSJ-100, A320, A321, B737



2650 m² area
50×53 m dimensions
9,2 m wall height
10 m to the bottom of rafter structures, considering base
18 m ridge height

Development of regional airlines in hard-to-reach and underpopulated regions

HANGAR SHELTER FOR A320/B737 AIRCRAFT TYPE

In Vladivostok Airport, we erected hangar for A320/B737 aircraft types with 50x53 m dimensions, 9.2 m wall height and 18 m ridge height for Aurora Airlines.

Location:
Vladivostok

Dimensions:
50x53x9,2 m

Construction purposes:
erection of year-round storage and maintenance hangar for B737/ A320 aircraft types

Commissioning date:
2020

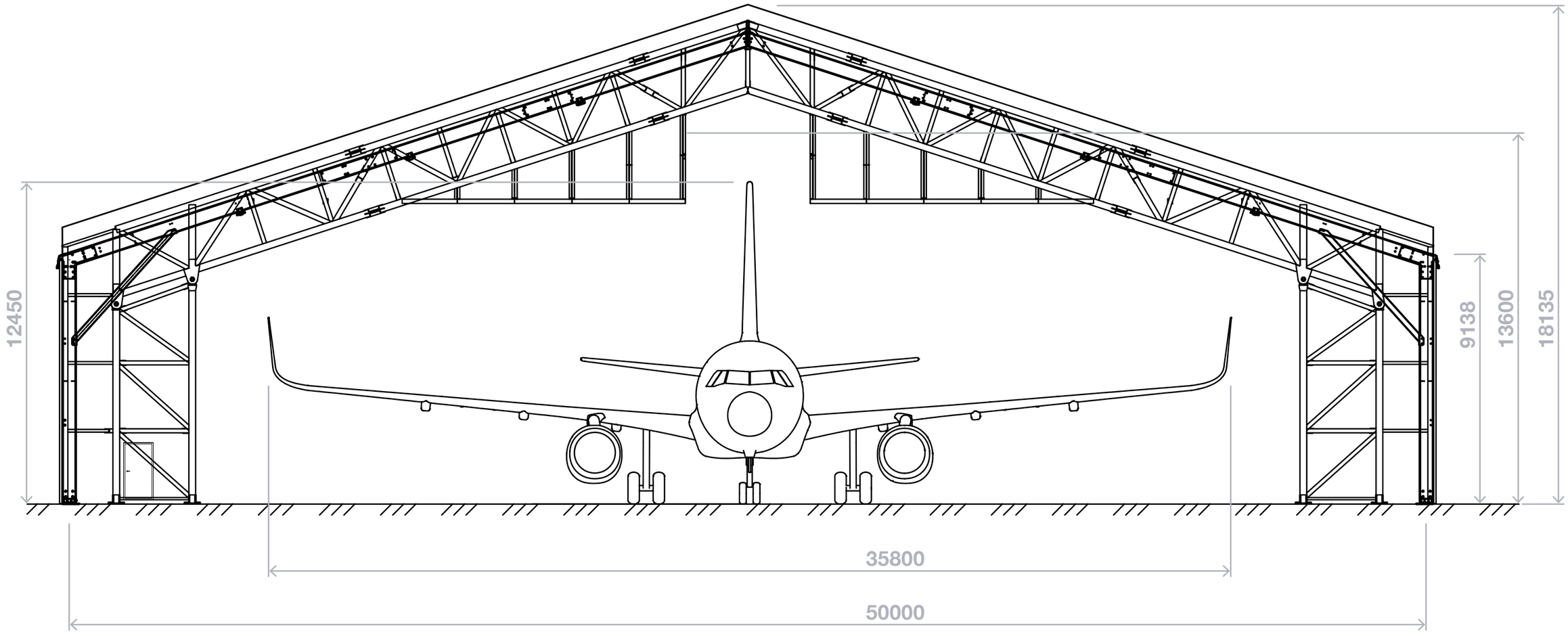
We used a hybrid frame structure, which combines frames of RÖDER Big Tent and H-line types with variable column step of 3 m and 5 m. The structure is equipped with automated three-section lifting hangar gate. Sandwich panel wall envelopes, 100 mm. Double automated thermal roofing provides active snow clearing.

Hangar of this type is additionally equipped with two-store block-module buildings. Administrative and office premises, plumbing rooms, showers, cafe and dining room, recreation room, warehouse for spare parts, equipment, materials and property are located inside.

2650 m²
area

18 m
ridge height

H-LINE+B-TENT
structure type



A321neo

50×53×9,2 m

dimensions

BOEING 777 REPAIR SHELTER

At the controlled area of Sheremetyevo Airport, we installed shelter on the basis of Big Tent structure, with 40x30 m dimensions and 6 m wall height. To prevent damaging of the apron surface the structure was installed using the «heavy floor» technology.

Three office block-modular buildings and a tent dining room 6x9 m are located inside. Engineering equipment (diesel forced air heaters, lighting, diesel generator sets, air compressors) allowed to create comfortable conditions for staying inside the tent during winter activities.

We mounted scaffolding to allow access to aircraft wing plane and provided lifting machines for vertical stabilizer dismantling. To increase stability and wind vibration absorption, the structure was attached to additional concrete blocks.

The repair of aircraft wing took 20 days, as planned, and RÖDER provided the conditions required by BOEING.

1200 m²
shed area

12 days
installation time

B-TENT
structure type

Location:
Moscow region, Sheremetyevo Airport

Dimensions:
40x30x6 m

Construction purpose:
erection of aircraft repair shed

Commissioning date:
2019

HANGARS AND SHELTERS FOR BUSINESS AND LIGHT AVIATION, HELICOPTERS

Quickly erectable RÖDER structures on aluminum frame do not require a deep foundation and present a perfect solution for simple shelter construction for business and light aircraft, as well as helicopters.

Combining high transportability, quick mounting and cheap maintenance, RÖDER structures can be installed in hardly accessible regions and infilled sites.

Shelters for small aircraft may be both seasonal and for cold seasons, as well as for year-round long-term operational use with sets of engineering systems and equipment.

We can design a hangar for several aircrafts, mount light tent hangar or heated shelter with firm walls.

15-36 m
length and width

5-6-9 m
wall height

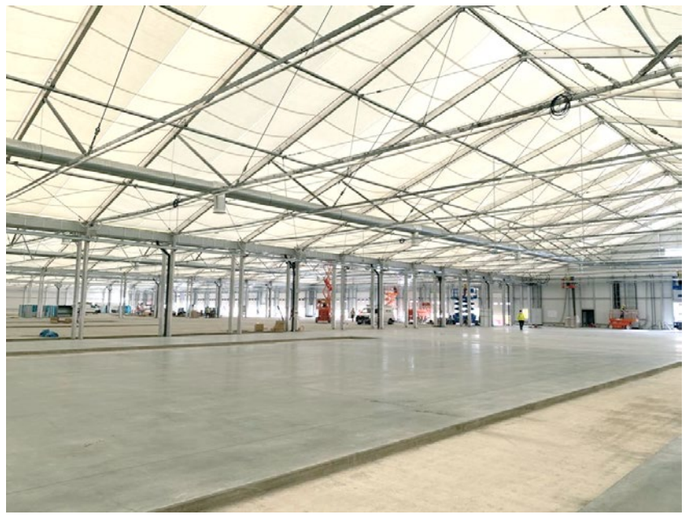
CARGO-TERMINALS

Large transportation terminal and sorting center

Large cargo terminal and logistic center is built in Leipzig Airport (Germany). Structure complex made of six connected halls of H-Line series, each with 40x85 m dimensions and 4 m wall height.

The structures are equipped with double thermal roofing, sandwich panel walls, electrical gates. Cargo terminal is fitted for year-round operational use in regions with mild climate.

Commissioning:
2020



20400 m²
area

H-LINE
structure type

10000+ m²
area

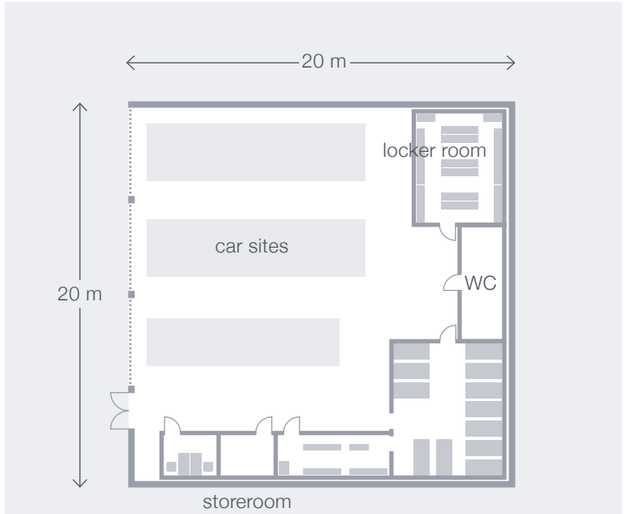
Regional delivery and sorting station

The sorting centers are built in three German cities, deploying the unique solution for structure connection. 25 m wide offloading dock is connected to 30 m wide main cargo storage hall, wall heights are 6.2 and 4.2 m respectively.

High safety standards, ventilation system, fire alarm, electrical gates, air-lock gates, year-round operational use.

Commissioning:
2019

EMERGENCY RESCUE STATIONS AND SHELTERS FOR EQUIPMENT AND VEHICLES



Rescue service station is a facility based of RÖDER structures with 20x20 m dimensions or 20x30 m with thermal roofing and sandwich panel walls. Premises for guards and administration cabinets, shelters for firefighting vehicles, warehouse for fire property and equipment storage are located inside.

If needed, the facility may accommodate premises for training, a dining room, a locker room, a drying room, a gym, and a maintenance station. Plumbing rooms, dispatching office and showers may be arranged with the use of block-modular buildings.

Our quickly erectable structures may also accommodate repair and maintenance shelters, vehicles, mechanism and equipment washes, garages for one or several cars. The structures may be connected with permanent airport buildings, or between each other, or with aircraft hangars.

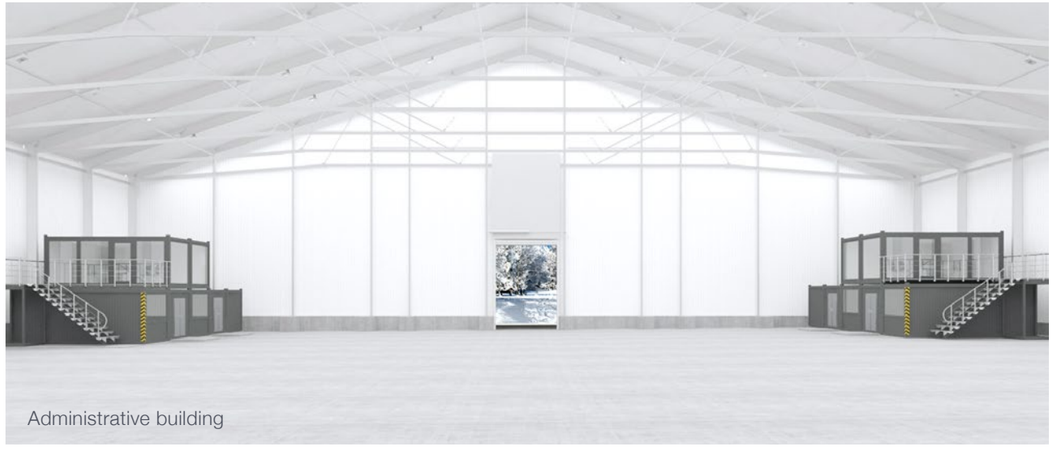
BLOCK MODULES


Administrative block

Key features:
- Frame made of cold-rolled welded steel profile
- Floor made of galvanized metal sheets and 20 mm waterproof cement chipboard, coating — linoleum
- Roof — steel bent cold-rolled profile, roofing — galvanized steel, double welt
- Walls and partition walls made of 80/100 mm sandwich panels
- Electrical heaters with thermo-regulatory protection, electrical convectors, air conditioning, mechanical ventilation
- External distribution boards, power outlets, switches, fluorescent lamps
- Standard colors:

RAL 9002	RAL 9003	RAL 7024

other colors are available


Administrative building

Usage:
- Modular light passenger terminals
- Office and household campuses, warehouses
- Plumbing modules
- Commercial areas with panoramic glazing (shops, cafes)
- Guard desks, checkpoints, Aviation Security Service buildings
- Modular air traffic control stations
- Classrooms
- Special (disinfection cabins, kennel modules, for navigational equipment)
- Customized project

Standard package or customized project

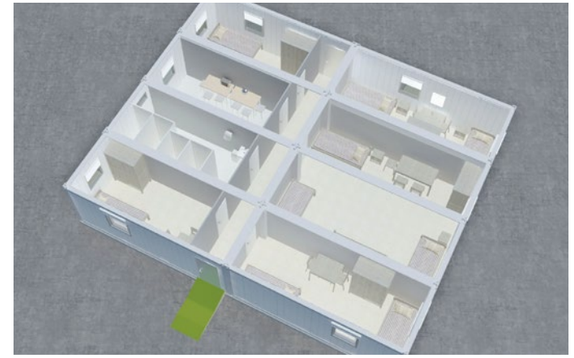
Selection of options in line with your requirements

Production and warehouse are located in Moscow region

ISO dimensions of the containers
6055x2435 mm (20 feet)
2989x2435 mm (10 feet)
4885x2435 mm (16 feet)
7335x2435 mm (24 feet)
1430x2435 mm (5 feet)

Ceiling height
2591/2800/2960 mm


Residential block



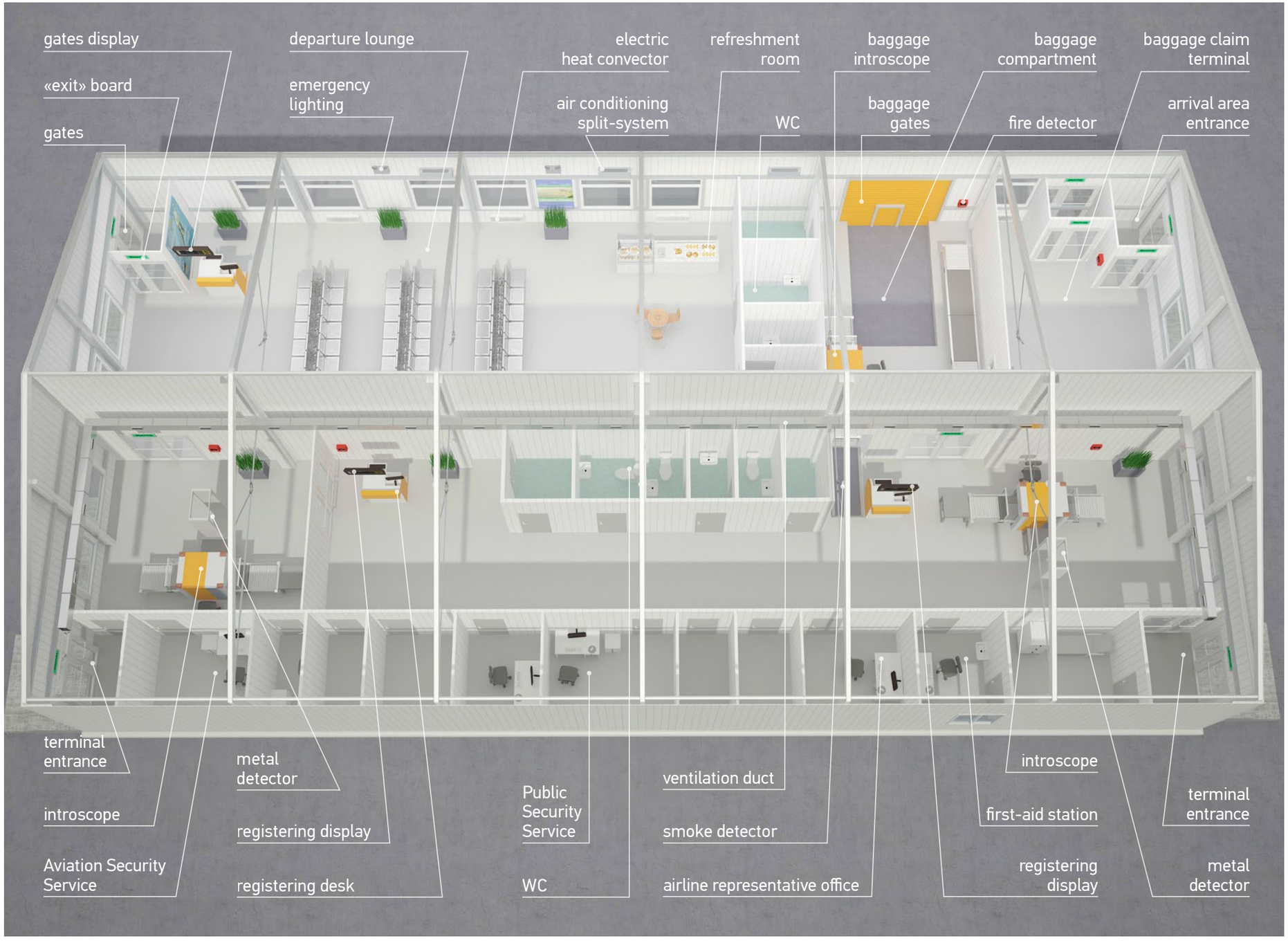

Commercial area

TECHNOLOGICAL SYSTEMS

The airport terminal comprises:
- Information system (display)
- Passenger notification system combined with automatic fire alarm
- Passenger and baggage check-in system
- Baggage acceptance and claim system
- Aviation safety systems (metal detectors, introscopes, explosives detectors, radiation control, dog service)
- Power supply
- Automated firefighting, fire alarm, warning and evacuation management systems
- Lighting, emergency lighting
- Ventilation and air-conditioning, heating
- Water supply and sewer system
- Communication system, structured cable system, local area network, WiFi, access control systems
- Security alarm system
- Video surveillance system
- Data collection and protection system

Aircraft hangar comprises:
- Sectioned lifting gates
- Lifting equipment
- Special lighting
- Technical gases
- Firefighting system
- Administrative buildings for staff

When equipping airport infrastructure, we also implement stand-alone systems with deployment of mobile technologies.



SPREAD YOUR WINGS

Prefabricated structures for airports

Roder LLC is a Russian company and an important part of RÖDER group

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Solnechnogorsk Urban
District, Lunevo Settlement

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